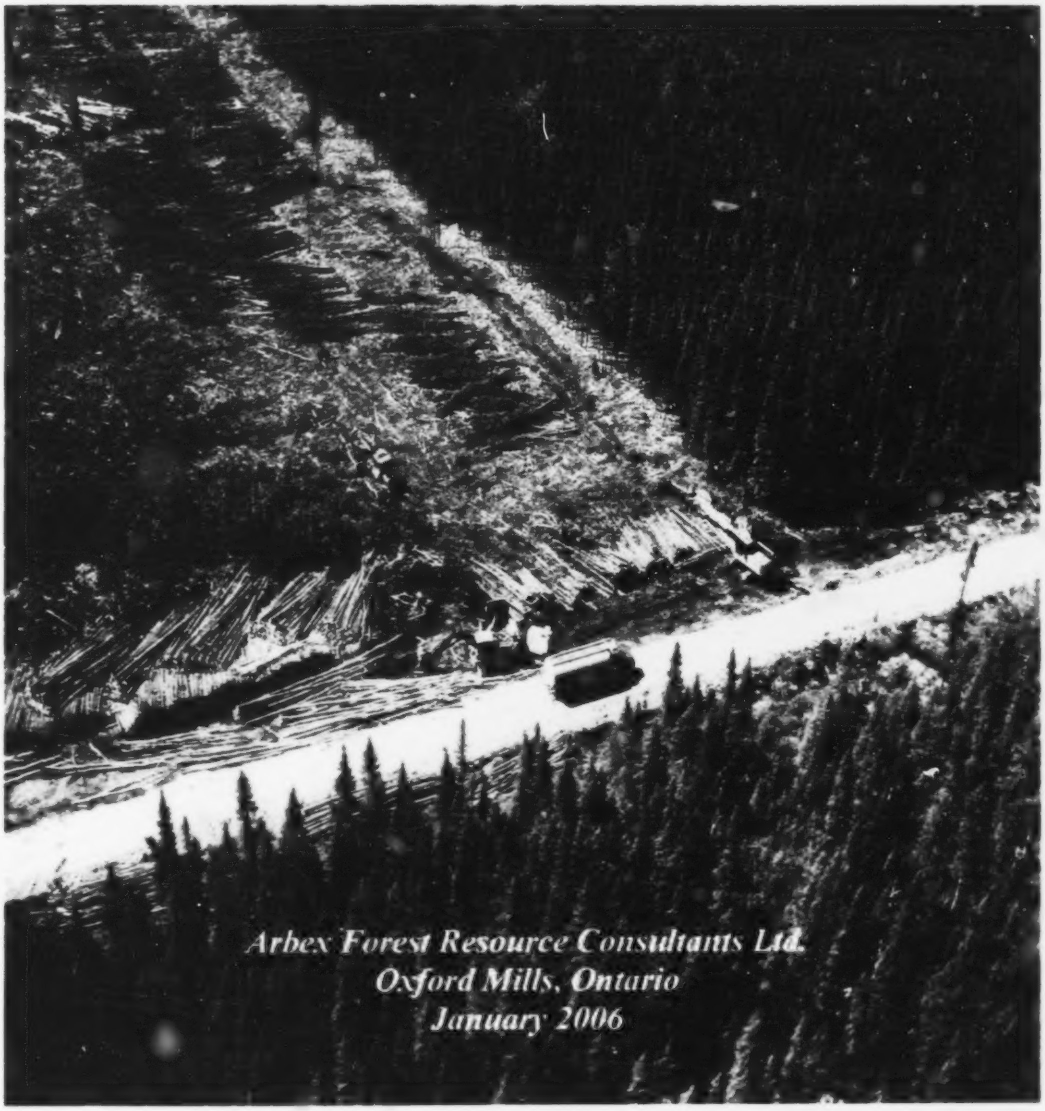
IROQUOIS FALLS FOREST
INDEPENDENT FOREST AUDIT
2000-2005



Arbex Forest Resource Consultants Ltd.
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TABLE OF CONTENTS

1.0. EXECUTIVE SUMMARY **1**

2.0. INTRODUCTION **1**

2.1. Audit Process 1
2.2. Forest Management Context 6
2.2.1. Map of the Management Unit (SFL) *7*
2.2.2. Description of the Forest *9*
2.2.3. Forest Management Issues *13*

3.0. SUMMARY OF AUDIT FINDINGS **15**

3.1. Commitment 15
3.2. Public Participation 17
3.2.1. Local Citizens Committee *17*
3.2.2. FMP Standard Public Consultation Process *19*
3.2.3. Native Peoples Consultation *20*
3.2.4. Annual Work Schedule Public Inspection *21*
3.3. Forest Management Planning 22
3.3.1. Planning Team *22*
3.3.2. Resource Stewardship Agreements (RSAs) *23*
3.3.3. Source of Direction *23*
3.3.4. Introduction *24*
3.3.5. Management Unit Description *24*
3.3.6. Objectives and Strategies /Management Alternatives *25*
3.3.7. Operational Planning *28*
3.3.8. Plan Review, Approval *31*
3.3.9. Plan Amendments *31*
3.3.10. Contingency Plans *32*
3.3.11. Annual Work Schedules *32*
3.4. Plan Implementation 32
3.4.1. Areas of Concern *32*
3.4.2. Harvest *32*
3.4.3. Renewal *40*
3.4.4. Tending and Protection *45*
3.4.5. Renewal Support *46*
3.4.6. Access *46*
3.5. Systems Support 47
3.5.1. Human Resources *47*
3.5.2. Documentation and Quality Control *47*
3.6. Monitoring 48
3.6.1. General Monitoring *48*
3.6.2. Annual Report *50*
3.6.3. Report of Past Forest Operations *51*
3.7. Achievement of Management Objectives and Forest Sustainability 52
3.7.1. Achievement of Management Objectives *52*
3.7.2. Review of RPFO Assessment of Sustainability *61*
3.7.3. Review of the Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report Operations Report *62*
3.7.4. Achievement of Forest Sustainability *66*
3.8. Contractual Obligations 72

4.0. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS **81**

APPENDIX A
Comparison & Trend Analysis of Planned vs. Actual Forest Operations Report
APPENDIX B
Roles, Responsibilities, and Qualifications of the Audit Team
APPENDIX C
Independent Forest Audit Guiding Principles
APPENDIX D
Glossary of Acronyms Used
APPENDIX E
Summary of Input to the Audit Process

LIST OF FIGURES

FIGURE 1. LOCATION OF THE IROQUOIS FALLS FOREST. 8
FIGURE 2. AREA SUMMARY OF MANAGED CROWN LAND ON THE IFF. 10
FIGURE 3. PROPORTIONAL REPRESENTATION OF WORKING GROUPS ON THE IFF. 11
FIGURE 4. AREA DISTRIBUTION BY FOREST UNIT ON THE IROQUOIS FALLS FOREST 12
FIGURE 5. AGE CLASS DISTRIBUTION BY FOREST UNIT (MANAGED PRODUCTIVE FOREST) ON THE IROQUOIS FALLS FOREST 13

LIST OF TABLES

TABLE 1. FIELD SAMPLING INTENSITY ON THE IROQUOIS FALLS FOREST FOR PRIMARY AUDIT ACTIVITY 5
TABLE 2. RELATIVE REPRESENTATION OF FOREST UNITS BY OPERATING TERM ON THE IFF 41
TABLE 3. IFN PLANNED VS. ACTUAL RENEWAL (HA) 2000-2004 42
TABLE 4. IFS PLANNED VS. ACTUAL RENEWAL (HA) 2000-2004 42
TABLE 5 (A). SUMMARY OF THE STATUS OF THE 1995-2000 IROQUOIS FALLS FOREST TMP MANAGEMENT OBJECTIVES 53
TABLE 5 (B). SUMMARY OF THE STATUS OF THE 1996-2000 IROQUOIS FALLS FOREST SOUTH COMPANY MANAGEMENT UNIT TMP MANAGEMENT OBJECTIVES. 55
TABLE 6. SUMMARY OF THE STATUS OF THE 2000-2005 FMP OBJECTIVES. 56
TABLE 7. ASSESSMENT OF THE FIVE CRITERIA OF SUSTAINABLE FOREST MANAGEMENT 67
TABLE 8. SUMMARY OF CONTRACTUAL OBLIGATIONS AND AUDITOR COMMENTS ON THE LEVEL OF ATTAINMENT OF THE CONTRACTED OBLIGATIONS FOR SFL # 542531. 72
TABLE 9. ACTIONS TAKEN BY ABITIBI AND OMNR IN RESPONSE TO THE 1995-2000 INDEPENDENT FOREST AUDIT RECOMMENDATIONS. 76
TABLE 10. SUMMARY OF RECOMMENDATIONS AND SUGGESTIONS 85

1.0. EXECUTIVE SUMMARY

This report presents the findings of an Independent Forest Audit (IFA) conducted on the Iroquois Falls Forest for the five-year period from April 1, 2000 to March 31, 2005. The audit conformed to the requirements of the 2005 Independent Forest Audit Process and Protocol (IFAPP) prepared by the Ontario Ministry of Natural Resources (OMNR). Sustainable Forest Licence (SFL) 542531 was issued to Abitibi-Consolidated Inc.[1] (now Abitibi-Consolidated Company of Canada) in April, 1999. The SFL encompasses the original Iroquois Falls Forest FMA and the Iroquois Falls South Company Management Unit. The forest unit is called the Iroquois Falls Forest (IFF) and is located in the Northeast Region of the Ontario Ministry of Natural Resources. Approximately 85% of the Forest is within the administrative District of Cochrane and approximately 15% is within the administrative District of Kirkland Lake.

Abitibi-Consolidated administered the IFF from its Woodlands Office situated in the Iroquois Falls Mill. The OMNR manager for the Forest was the Cochrane District.

The Iroquois Falls Forest is subdivided into two sub-units, Iroquois Falls North sub-unit (IFN) and the Iroquois Falls South sub-unit (IFS). Iroquois Falls North is the original Iroquois Falls Forest established as Forest Management Agreement # 500200 in 1980. The Iroquois Falls South sub-unit is the former Iroquois Falls South Company Licence Management Unit (Licence 540176). Both sub-units had Independent Forest Audits in 2000 for the period April 1, 1995 to March 31, 2000.

The Independent Forest Audit process is based on a detailed assessment of eight broad principles:

- Commitment.
- Public participation.
- Forest management planning.
- Plan implementation.
- System support.
- Monitoring.
- Achievement of management objectives and sustainability.

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[1] Abitibi-Consolidated Inc. is referred to in this report as "Abitibi", "Abitibi-Consolidated" "The Company" or "Company".

- Contractual obligations.

Each principle has a series of specific criteria which are examined to determine whether or not the management of the Forest had been in compliance with the legislation, regulations and policies that were in effect during the audit term and, whether or not the Forest had been managed in compliance with the requirements of the Sustainable Forest Licence.

The auditor collected analyzed, interpreted, and documented appropriate information to determine if the IFAPP criteria had been met. This evaluation determined the audit findings. Those findings were then analyzed and aggregated to determine the outcome of the audit.

While the purpose of this audit was to assess the 2000-2005 FMP and its implementation, the auditor also completed a general review of the planning process for the development of the 2005 FMP.

Eight recommendations and three suggestions are made to the Company and/or OMNR to address issues identified during the audit (see Table 10).

The audit process included the use of newspaper notices and a mail-out of letters to a sample of individuals and organizations on the OMNR Forest Management mailing lists. The letters invited individuals to comment on the effectiveness of forest management on the IFF and contained a survey questionnaire. Local Citizens Committee (LCC) members were notified of the audit by mail and interested members were interviewed. First Nation communities received letters of notification of the audit and follow-up telephone invitations inviting their participation. The audit team spent a total of 7 days (2 days for a pre-meeting and five days for field audit) on-site reviewing documents, conducting interviews and inspecting randomly selected field activities of the Company and Overlapping licences.

A summary of the audit results is presented by principle below;

Commitment

Abitibi had a formal Environmental Management System (EMS) which established standards, responsibilities, training, and monitoring for all aspects of its business including sustainable forestry. The Company had attained ISO 14001 Registration and had ongoing and effective training programs and communication with its employees and contractors. Company policies and directions were reflected in its day-to-day operations.

The Cochrane and Kirkland Lake OMNR both complied with all OMNR policies and directions associated with forest sustainability. Staff had been provided with the required training and information.

Public Participation

For the 2000 FMP process, LCCs were established for Kirkland Lake and Cochrane Districts and Terms of Reference (TOR) for both LCCs were developed in accordance with Forest Management Planning Manual (FMPM) requirements.

The Cochrane LCC had the lead responsibility for the Forest Management Plan (FMP) development and a representative from the Kirkland Lake LCC was assigned to it for that purpose. Kirkland Lake District had a representative and active Local Citizens Committee; however, the Cochrane District LCC had difficulty recruiting and retaining members, was unable to carry out all of its responsibilities, and did not meet for approximately eight months.

Cochrane LCC members felt they did not have sufficient time, training, or technical background to fully participate in the FMP process. A recommendation to address the issue of LCC effectiveness is provided in Section 3.2.1.

First Nation participation was initially characterized by controversy and a road blockade. Both the OMNR and the Company responded positively, and agreements were negotiated that resulted in First Nation participation and increased involvement in forest operations on the Forest.

FMPM requirements for First Nation notification and participation were met. OMNR's responsibility for Environmental Assessment (EA) Condition 77 was substantially met.

Forest Management Planning

A multidisciplinary planning team was established for the 2000-2005 FMP and approved by the Cochrane OMNR District Manager. A complete Terms of Reference consistent with the requirements of the FMPM was approved and the team functioned effectively. Appropriate sources of direction were followed for the development of the FMP, and the forest management plan objectives were prepared in accordance with the requirements of the FMPM.

The development of management alternatives portraying various circumstances and sets of management objectives was logical and well structured. The Selected Management Alternative (SMA) is considered by the auditor to be sustainable.

Areas selected for harvest, tending and renewal operations met FMPM requirements. Preferred silvicultural treatment packages and silvicultural ground rules were properly identified and prescriptions to protect specific values were developed through Area of Concern (AOC) planning.

Planning activities for the development of the 2005 FMP conformed to the FMPM. The 2005 Selected Management Alternative had the best balance of timber and non-timber objectives and is considered by the auditor to be sustainable.

Plan Implementation

Forest operations inspected during the audit conformed to FMPM requirements. Site inspections found harvest and renewal operations were conducted in accordance with the approved silvicultural ground rules and that most operations demonstrated good utilization and protection of soils and waterways.

FMPM requirements for the documentation of Areas of Concern (AOCs) were complete and in place for the development of the plan. The auditor believes that there was a need for greater flexibility and creativity in the implementation of forest management guidelines. Three suggestions to address these concerns are provided (Section 3.3.7. & 3.4.2.).

Some reporting tables contained incomplete information. Recommendations are provided in Sections 3.6.1. and 3.6.2. The auditor noted that a backlog of regeneration assessments exists on the Forest. A recommendation to address this concern is provided in Section 3.4.3.

Field observations indicated that the Forest is adequately regenerating. On renewal sites observed during the field audit, areas scheduled for natural regeneration contained adequate stocking levels. Harvesting With Regeneration Protection (HARP) and Careful Logging Around Advanced Growth (CLAAG) harvesting techniques, were applied extensively on the IFF, supported by research and approved by OMNR. The auditor determined these harvesting techniques were effective and consistent with forest sustainability. The shift towards increased natural regeneration has not resulted in significant changes in forest composition on the IFF.

Roads, culverts, and bridges were built to required standards. On some abandoned roads some siltation was occurring due to culvert deterioration. A recommendation is provided in Section 3.4.6.

System Support

Appropriate training programs were in place for OMNR and Industry staff. Both Abitibi and the OMNR had effective record management systems.

Monitoring

Compliance strategies were completed in accordance with the guidelines and were signed by the Cochrane and Kirkland Lake District Managers.

The monitoring program was appropriate for the level of activity and the compliance history of the Forest. Overall, the Company had good compliance planning and an effective field compliance program. Lateness of submission of In-Compliance (IC) reports was an issue. A recommendation addressing this issue is provided in Section 3.6.1.

Problems related to completeness and accuracy of Annual Reports existed early in the plan term; however, report quality improved at the end of the plan term. Recommendations in Section 3.6.2 and Section 3.6.3 address problems observed with respect to forest management reporting.

Achievement of the Management Objectives and Forest Sustainability

The Company substantially met most of the Forest Management Plan objectives. When Plan objectives were partially met an acceptable rationale was provided to the auditor to explain the variances between planned and actual results.

The *Crown Forest Sustainability Act* (CFSA) requires that a determination of the sustainability of Crown forests be made using the following criteria: biodiversity, forest condition and ecosystem productivity, soil and water quality, multiple benefits to society, and acceptance of society's responsibility for sustainable development. Based on an assessment of these criteria, the auditor determined that during the audit period the management of the Iroquois Falls Forest met the conditions of forest sustainability as defined by the CFSA.

Contractual Obligations

The Company substantially met its contractual obligations.

Conclusion

With full consideration of 2005 IFAPP principles and criteria, the auditor concludes that management of the Forest was in compliance with the legislation, regulations, and policies that were in effect during the audit term.

With the exceptions noted in this report, the requirements of the Sustainable Forest Licence (SFL) have been met.

The auditor recommends that the Minister extend SFL # 542531 for a further five-year period.

2.0. INTRODUCTION

This report presents the results of the Independent Forest Audit (IFA) of the Iroquois Falls Forest SFL # 542531 conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2000 to March 31, 2005. SFL # 542531 assigns responsibility for forest management planning, operations, reforestation, and self-compliance to specified standards to Abitibi-Consolidated Company of Canada.

2.1. AUDIT PROCESS

Ontario legislation requires that Crown Land Forest Management Units be audited every five years by an Independent Auditor. The audit applies to the Ontario Ministry of Natural Resources (OMNR) and all licencees (primary and overlapping) on the forest management unit. The audit considers the compliance aspect of forest management planning by reviewing the management plan in relation to specific planning manual requirements in place at the time of plan approval, and a review of actual operations and required monitoring and reporting. The audit also considers the SFL's specific contractual compliance relative to its licence agreement. The effectiveness of forest management activities is examined based on planned vs. actual results as verified through record examination and field sampling. The audit reviews whether actual results in the field are comparable with planned results, and determines if they are accurately reported.

The Independent Forest Audit Process and Protocol (IFAPP), developed by the OMNR, provide a comprehensive and consistent method of evaluating forest management activities on Crown land. The IFAPP contains approximately 400 individual procedures that direct the independent auditor to; collect, analyze, interpret, and document appropriate information to determine if various criteria have been met. The results of the evaluation of evidence against the criteria determine the audit findings. Those findings are then analyzed and aggregated to determine the outcome of the audit.

The IFAPP states that the purpose of the independent forest audit is to assess:

- To what extent forest management planning activities comply with the Forest Management Planning Manual (FMPM) and the Crown Forest Sustainability Act (CFSA).
- To what extent forest management activities comply with the Act and with the forest management plans, the manuals approved under the Act, and the applicable guides.

- The effectiveness of forest management activities in meeting the forest management objectives set out in the forest management plan, as measured in relation to the criteria established for the audit.
- Forest management activities carried out compared to those that were planned.
- The effectiveness of any action plans implemented to remedy shortcomings revealed by a previous audit.
- To review a licensee's compliance with the terms and conditions of the forest resources licence.

The audit process is based on a detailed assessment of eight broad principles:

- Commitment.
- Public participation.
- Forest management planning.
- Plan implementation.
- System support.
- Monitoring.
- Achievement of management objectives and sustainability.
- Contractual obligations.

Each IFAPP principle has a series of specific criteria which, if met, will result in the achievement of that principle. The specific criteria are based on applicable legislation, manuals, and guidelines related to forest management contained in the 2005 IFAPP.

The audit was planned and organized by Arbex Forest Resource Consultants Ltd. The audit team consisted of three professional foresters and three specialists with expertise in fish and wildlife management, forest management planning, land use planning, public consultation, and compliance. Each team member was assigned specific duties and responsibilities. A list of audit team members and their qualifications is presented in Appendix B.

The Iroquois Falls Forest IFA process consisted of the following elements:

Audit Plan: An audit plan describing the schedule of audit activities, audit team members, and participants and the auditing methods was prepared and submitted to the auditees (Company and OMNR) as well as a representative of the Cochrane Local Citizens Committee (LCC).

Public Notices: The following public consultation methodologies were utilized for the delivery of the audit:

- A notice of the audit was placed in local newspapers in Cochrane, Iroquois Falls and Kirkland Lake. The newspaper notice advised the public of the audit dates and invited public comment to the auditor by mail, e-mail or telephone.
- All Cochrane LCC members (and Kirkland Lake LCC representatives assigned to the audit) received a letter of notification of the audit and an invitation to participate in the audit.
- All First Nations on or adjacent to the Forest received letters and follow-up telephone calls requesting their involvement in the audit.
- Letters were sent to a random sample of individuals from the Forest Management Plan (FMP) mailing list (35%) requesting their involvement in the audit. A survey form was included along with a request to mail or telephone their responses to the auditor.

Telephone contacts, interviews, and meetings were conducted with representative stakeholders (determined from record reviews and analysis of issues) who were involved with forest planning and operations on the Forest.

Field Site Selection: The auditor spent two days (July 26-27) at the Iroquois Falls Abitibi-Consolidated Woodlands Office. At that time a pre-audit meeting was held with the Company, OMNR (Cochrane and Kirkland Lake) and LCC representatives (Cochrane and Kirkland Lake) to review a draft audit plan and select specific field sites to be inspected on the Forest. Field audit sites were randomly selected to provide a representative sample of forest management activities conducted during the audit period.

Pre-audit Document Review and Interviews: The auditor reviewed all planning materials, communications, maps, data, and other related documents associated with the development of the 2000–2005 Forest Management Plan (FMP). The approved Plan and all forest management activities on the Forest during the 2000-2005 audit period were carefully reviewed. Telephone interviews were conducted with representative stakeholders.

While the primary purpose of the audit was to assess the 2000-2005 FMP and its implementation, the auditor also completed a general review of the planning process for the development of the 2005 FMP. The 2005 Plan Author was interviewed and the 2005 FMP reviewed. Local Citizens Committee (LCC) and planning team minutes were reviewed. Unless otherwise specified, all text, tables and figures in this report are specific to the 2000 FMP.

Site Audit: The auditor spent five days on the Iroquois Falls Forest (August 22 – August 26) and conducted site inspections of selected forest management activities. Key Company and OMNR staff and stakeholders were interviewed, documents and records were reviewed, and audit site visits were conducted. Audit sites inspected represented approximately 20 percent of the Company's and Overlapping Licencees operations. Inspected sites were accessed by road or by helicopter as required. Table 1 presents the sampling intensity by activity. The site samples were stratified to ensure representation of silvicultural activity, season of operation, contractors, year of operation, Areas of Concern (AOC), and other protected areas.

Field sampling included both site-specific information and landscape-scale examinations made from aerial observations. Individual sites were selected to represent a primary activity (e.g. harvesting, site preparation, chemical tending); however, all associated activities at the site were assessed at the same time, allowing the auditor to augment the planned sampling intensity. The audit team traveled approximately 1,700 kilometres of primary, secondary, and tertiary roads on the Forest. During this travel, road construction, maintenance and water crossings were observed. During travel between inspection sites the auditor observed additional AOCs and management practices.

TABLE 1. FIELD SAMPLING INTENSITY ON THE IROQUOIS FALLS FOREST FOR PRIMARY AUDIT ACTIVITY

Activity	Total Area (Ha) /Number (2000-2005)	Area (Ha) /Number Sampled	Percent[2] Sampled
Harvest	18,990	2,590	14
Regeneration	12,654	2,485	20
Mechanical Site Preparation	3,256	691	21
Aerial Spray	18,770	3,298	18
Chemical Tending	232	46	20
Spacing	146	29	20
Specified Procedures Area[3]	7,325	4,028	55
Free-to-Grow	26,780	5,356	20
Water Crossings	272	24	9
Areas of Concern[4]	4,776	1,289	27

Report: The audit report includes a description of the audit process and a discussion of findings and conclusions. Recommendations are directed at deficiencies in forest management and associated processes that require corrective action. Recommendations must be dealt with in an action plan developed jointly by the Company and the OMNR. Suggestions are directed at less serious issues and simply provide advice for improvement.

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[2] Percent sampled represents the location of prime audit activity. In addition to the prime audit activity all additional silvicultural, protection and construction activities on that site were also inspected. For example, a site selected primarily to audit planting activities was also inspected for associated chemical tending, culvert construction etc.

[3] In an effort to monitor and control costs, the Government has implemented a practice of auditing licensee's costs on a set of specific management activities submitted for reimbursement under funding agreements. The IFA samples a portion of these sites in the field.

[4] A significant number of AOCs on the forest are linear features (e.g. riparian areas, moose aquatic) as opposed to point features (e.g. nest sites). For this reason most of the assessment was area based and observed via helicopter.

2.2. FOREST MANAGEMENT CONTEXT

Sustainable Forest Licence # 542531 was issued to Abitibi-Consolidated Inc. (now Abitibi-Consolidated Company of Canada) in April, 1999. The Iroquois Falls Forest is subdivided into two sub-units, the IFN (north sub-unit) and the IFS-(south sub-unit). Each sub-unit has a separate Available Harvest Allocation (AHA). Abitibi-Consolidated administers the Forest from its Woodlands Office situated in the Iroquois Falls Mill.

The Forest is located within the Ontario Ministry of Natural Resources (OMNR) administrative districts of Cochrane and Kirkland Lake[5]. During plan development the Cochrane District had lead OMNR responsibility. A representative from the Kirkland Lake LCC participated on the Cochrane LCC for plan development. However, during the plan term each District was responsible for the management and administration of the Forest within their area of jurisdiction.

Each District had a Local Citizens Committee that oversaw operational activities within the District's jurisdiction.

The 2000-2020 Forest Management Plan (includes the 2000-2005 operating term) was prepared in accordance with the 1996 Forest Management Planning Manual (FMPM) using 1989 Forest Resource Inventory (FRI) data.

The Lake Abitibi Model Forest (LAMF) is mostly situated on the IFF. The LAMF is part of a network of Model Forests sponsored by the Federal Government, and one of two Model Forests situated in Ontario.

Model Forest objectives include the application, testing, and demonstration of innovative forestry concepts and procedures to test and demonstrate advanced technology and practices. Abitibi and the OMNR participated in LAMF governance and in the delivery of cooperative projects related to forest management practices and forest productivity. Some of these projects included studies of:

- Careful Logging & Soil Compaction on Upland Sites.
- Effects of Harvesting Systems on Advanced Growth & Site Disturbance in Peatland Black Spruce Forests in the LAMF.
- Effects of Harvesting Systems on the Nutritional Status of Black Spruce System in the LAMF.

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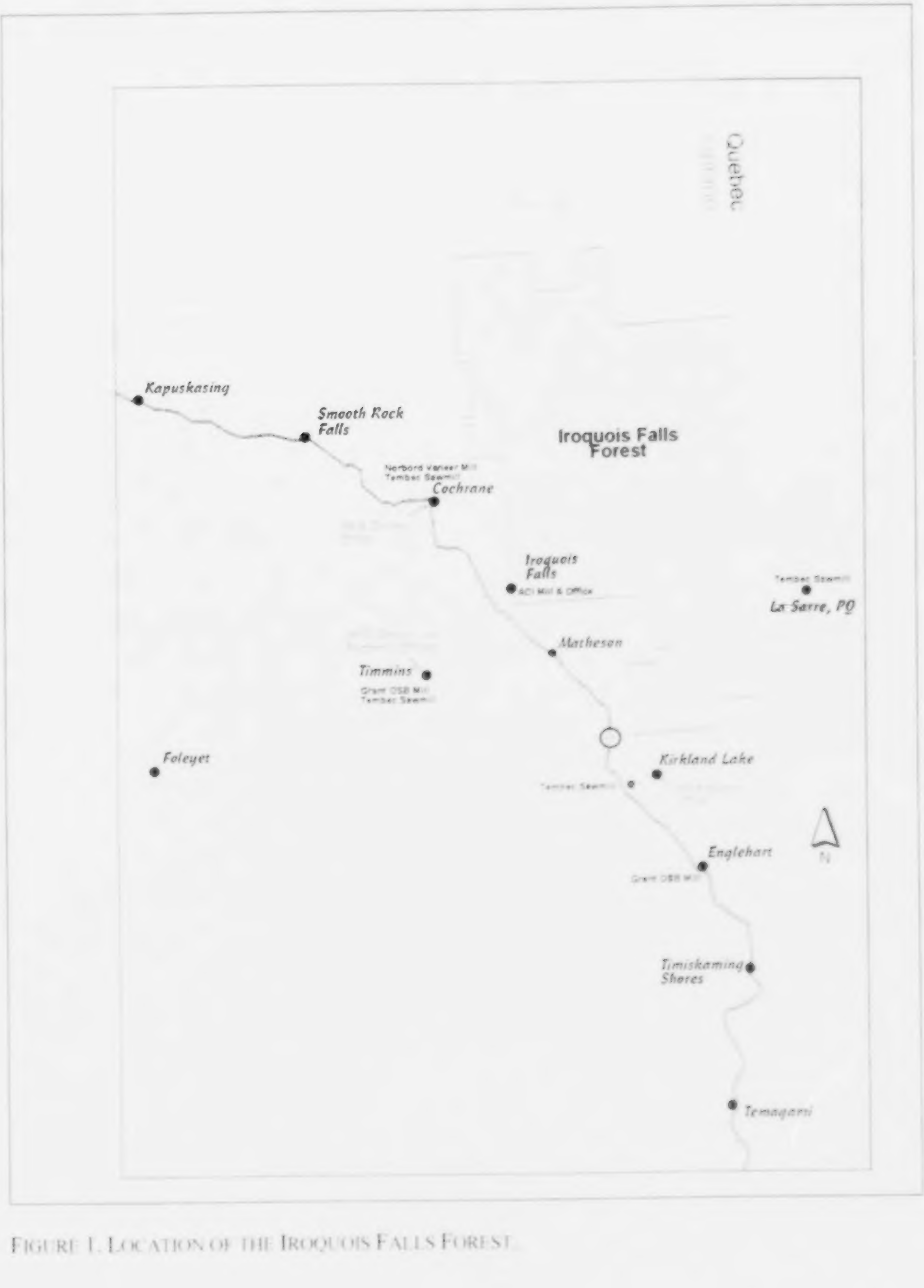
[5] Cochrane District comprises approximately 85% of the area of the IFF while the Kirkland Lake District comprises approximately 15% of the area.

- Growth & Mortality of Black Spruce Following Partial Stand Harvesting in the Eastern Boreal Forest of Ontario.
- Habitat Utilization by Woodland Caribou in Northeastern Ontario.

The auditor determined that the LAMF had been a positive contributing factor for forest management and forest sustainability on the IFF.

2.2.1. MAP OF THE MANAGEMENT UNIT (SFL)

Figure 1 shows the location of the Iroquois Falls Forest.


Quebec
Kapuskasing
Smooth Rock Falls
Iroquois Falls Forest
Norbord Veneer Mill
Tembec Sawmill
Cochrane
Iroquois Falls
ACI Mill & Office
Tembec Sawmill
La Sarre, PQ
Matheson
Timmins
Grant OSB Mill
Tembec Sawmill
Foleyet
Kirkland Lake
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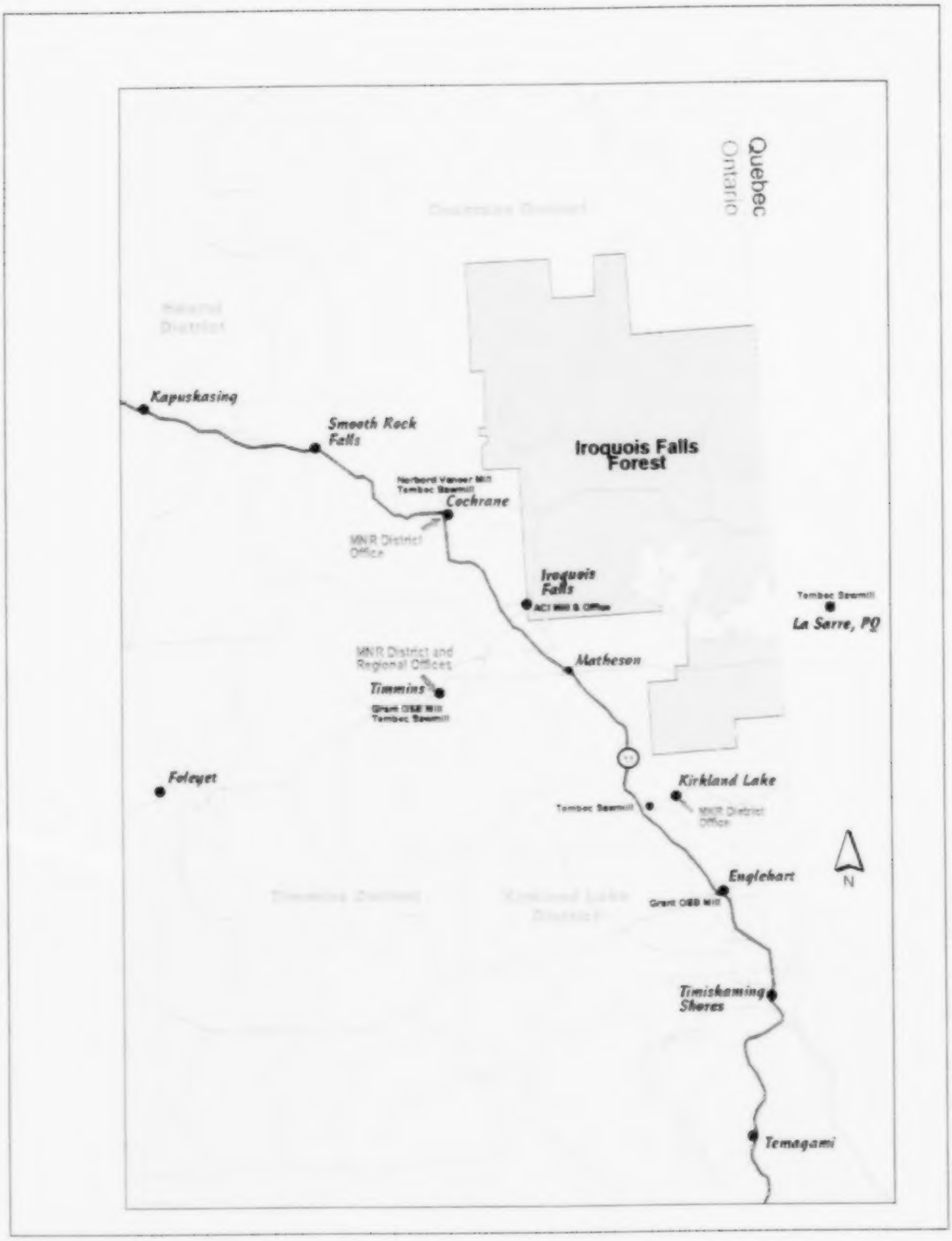
Englehart
Grant OSB Mill
N
Timiskaming Shores
Temagami

FIGURE 1. LOCATION OF THE IROQUOIS FALLS FOREST.


Quebec
Ontario
Cochrane District
Kapuskasing
Smooth Rock Falls
Iroquois Falls Forest
Norbord Veneer Mill
Tembec Sawmill
Cochrane
MNR District Office
Iroquois Falls
ACI Mill & Office
Tembec Sawmill
La Sarre, PQ
MNR District and Regional Offices
Timmins
Grant OSB Mill
Tembec Sawmill
Matheson
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Foleyet
Kirkland Lake
Tembec Sawmill
MNR District Office
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Englehart
Grant OSB Mill
Timmins District
Kirkland Lake District
Timiskaming Shores
Temagami

FIGURE 1. LOCATION OF THE IROQUOIS FALLS FOREST.

2.2.2. DESCRIPTION OF THE FOREST

The Iroquois Falls Forest boundary extends approximately 100 kilometres from the Quebec Provincial border to approximately 30 kilometres east of the town of Cochrane. The northern boundary of the Forest extends approximately 100 kilometres north of Lake Abitibi where it abuts the boundary of the Cochrane Moose River Crown Management Unit. The southern boundary extends approximately 40 kilometres south of Lake Abitibi.

The Iroquois Falls Forest is accessed by provincial highways and Company built forest access roads. Provincial Highway 652 provides access through the north central area of the licence. The Northwest Industrial Road, a company road, provides access north of Iroquois Falls and the Translimit Road provides access from the west side to the Quebec border in the east. South of Lake Abitibi, primary access to the Forest is provided by Highway 101, which runs due east from Matheson to the Quebec border, and by Highway 672 (formerly the Harker-Holloway Road) running due north from Highway 66 east of Kirkland Lake.

The IFF is 1,152,505 ha (including water, non-forested land and productive forest land). Figure 2 presents a summary of the Crown managed lands on the Forest.

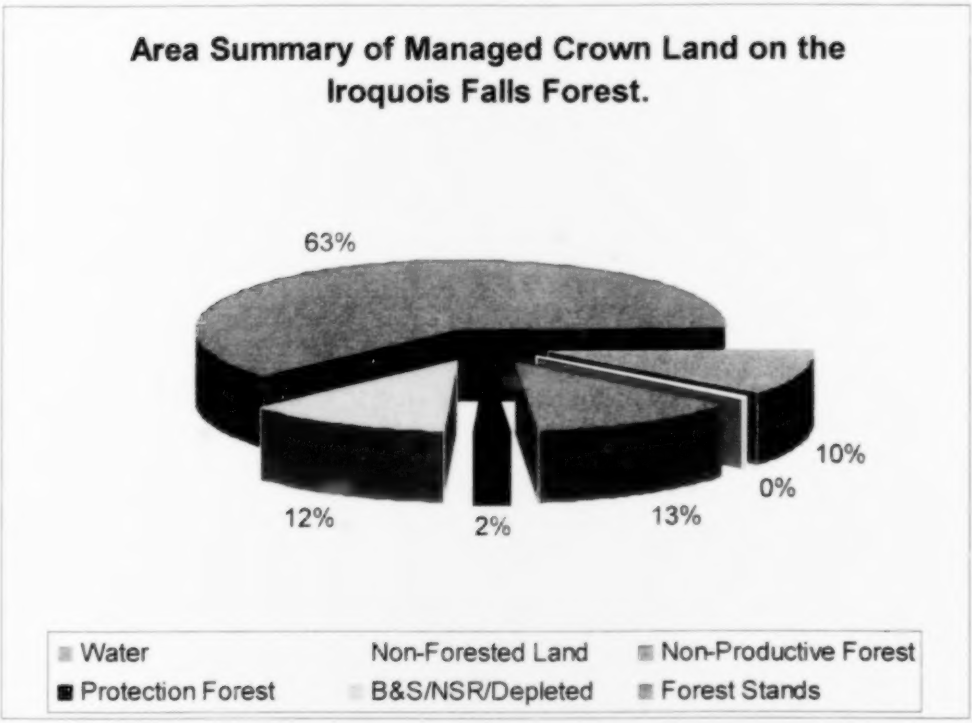

FIGURE 2. AREA SUMMARY OF MANAGED CROWN LAND ON THE IFF.

The major portion of the Iroquois Falls Forest is within the Great Northern Clay Belt of the Boreal Forest. The most northerly boundary is situated on the James Bay coastal plain. The area south of Lake Abitibi is within the Central Transition Zone.

The Forest is characterized by black spruce on uplands and lowland flats. On the lowland flats, black spruce alternates with sedge fens and sphagnum bogs. Hardwood or mixed wood stands of trembling aspen, balsam poplar, balsam fir and white and black spruce are found on better drained sites. Jack pine is found on drier sites such as outwash deposits, old beaches and eskers. White birch is prominent on sandy soils.

Figure 3 illustrates the proportional area of production forest working groups on the IFF.

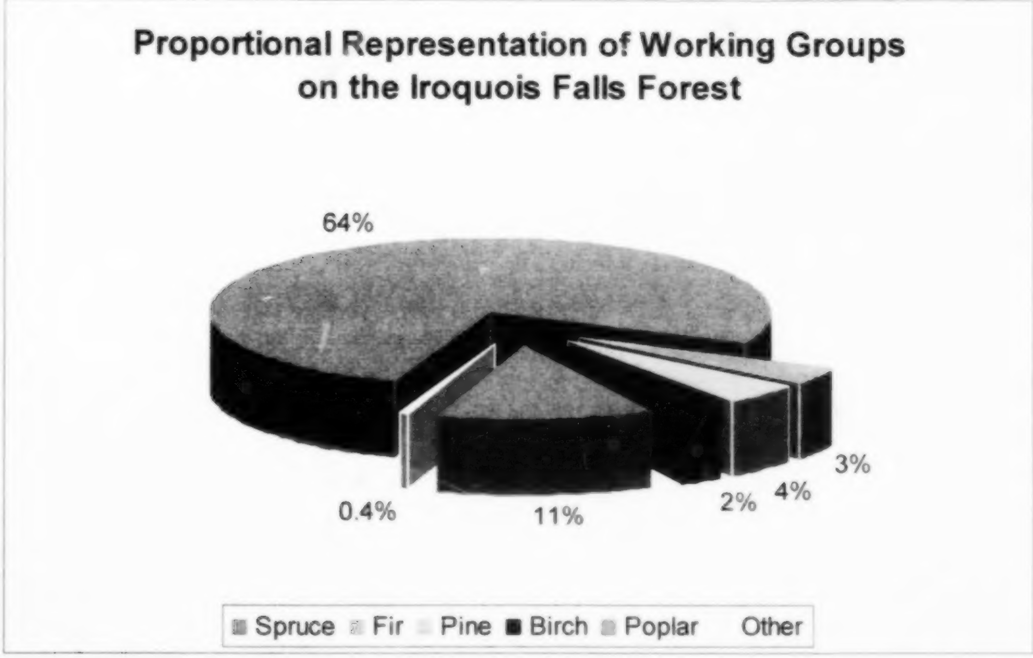

FIGURE 3. PROPORTIONAL REPRESENTATION OF WORKING GROUPS ON THE IFF.

Spruce forest units[6] comprise approximately 64% (514,835 ha) (Figures 3 & 4) of the total managed Crown productive forest land, whereas the poplar forest unit accounts for approximately 11% (85,422 ha). Jack pine and Balsam fir forest units occupy approximately 7% of managed Crown productive forest land (30,243 ha and 23,013 ha respectively). White birch occupies 2% and other conifer forest units occupy a small area (less than 1%).

Barren and scattered and not satisfactorily regenerated and depleted areas occupy 17% of the productive forest land base (135,941 ha).

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[6] A forest unit is an aggregation of forest stands for management purposes which has a similar species composition, develops in a similar manner (both naturally and in response to silvicultural treatments) and is managed under the same silvicultural system (OMNR 1996).

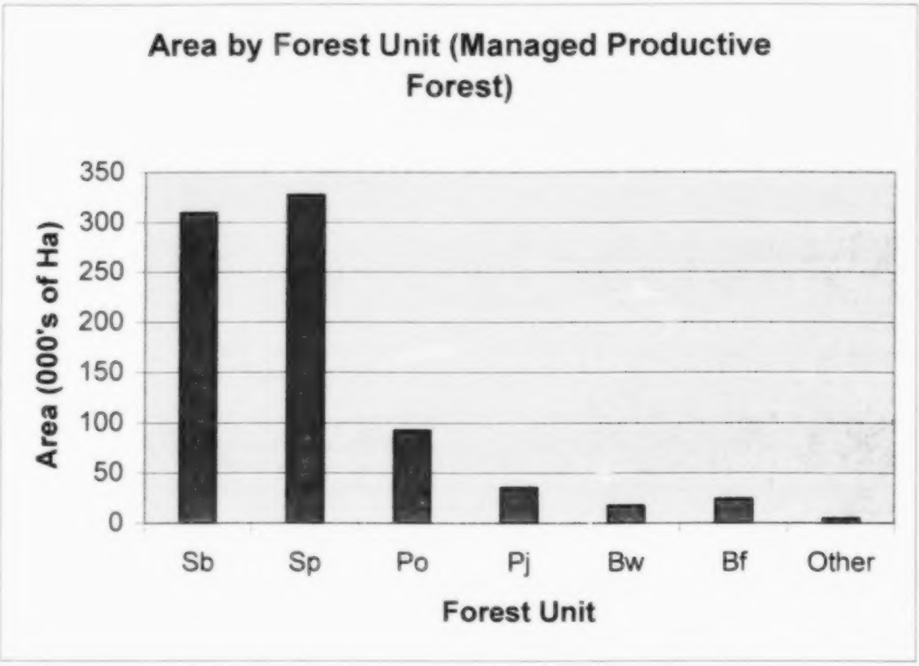

FIGURE 4. AREA DISTRIBUTION BY FOREST UNIT ON THE IROQUOIS FALLS FOREST

Note: *Sb = spruce lowland – CLAAG and spruce lowland – HARP combined*
Sp = spruce upland and spruce / hardwood mix combined
Po = poplar mix and poplar pure combined
Pj = jack pine pure and jack pine mix combined
Bw = white birch pure and white birch mix combined

The productive Crown land age class distribution by forest unit is presented in Figure 5. There is a predominance of mature and over-mature age classes in the Iroquois Falls North (IFN) sub-unit, particularly in the lowland spruce and poplar working groups, reflecting low levels of natural (i.e. fire) and human disturbance on peatland lands. Approximately 60% of the lowland spruce forest unit in the IFN sub-unit is classed as mature and over-mature. An age class imbalance to mature and over-mature age classes also exists for the poplar forest and birch forest units. In the Iroquois Falls South (IFS) sub-unit 20% of the lowland black spruce forest unit area is within mature and over-mature age classes. Upland spruce, pure poplar and the white birch forest units have an age class imbalance skewed to mature and over-mature age classes.

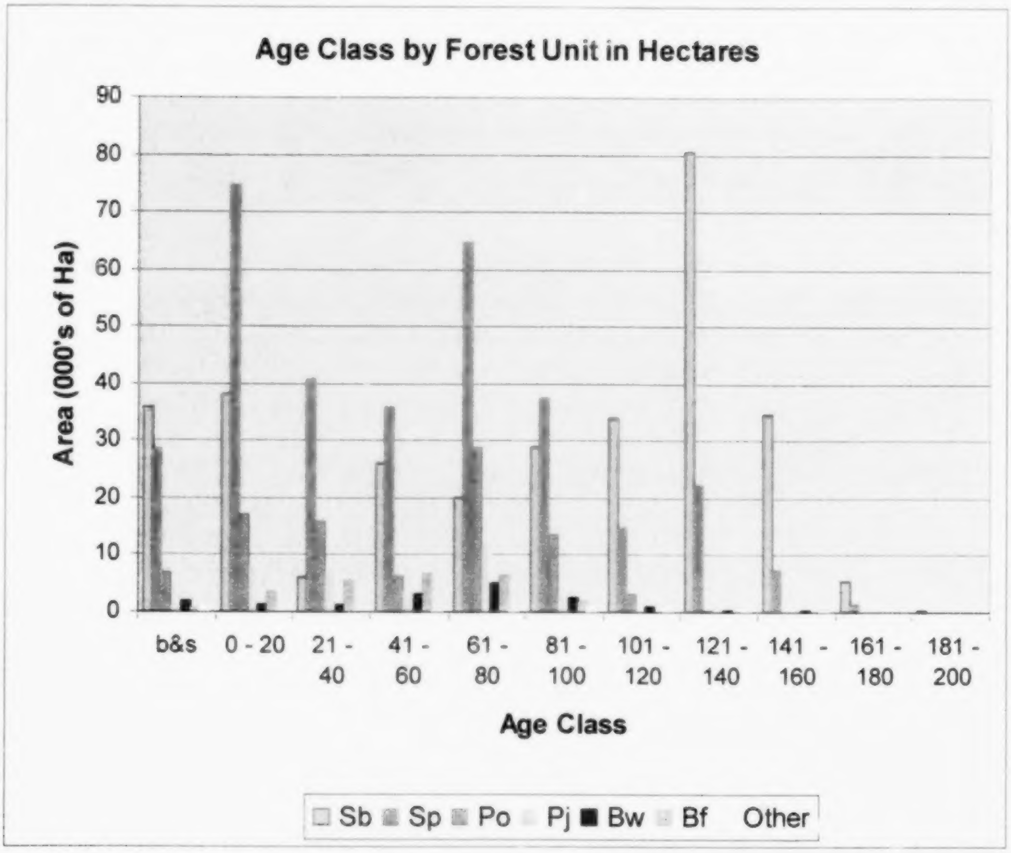

FIGURE 5. AGE CLASS DISTRIBUTION BY FOREST UNIT (MANAGED PRODUCTIVE FOREST) ON THE IROQUOIS FALLS FOREST

Note: *Sb = spruce lowland – CLAAG and spruce lowland – HARP combined*
Sp = spruce upland and spruce / hardwood mix combined
Po = poplar mix and poplar pure combined
Pj = jack pine pure and jack pine mix combined
Bw = white birch pure and white birch mix combined

2.2.3. FOREST MANAGEMENT ISSUES

The 2000 planning team and Plan Author identified the following issues as significant to forest management on the Iroquois Falls Forest.

Ontario's Living Legacy (OLL):

There was concern that the OLL process would reduce the area available for harvest and negatively affect access plans.

Aboriginal Traditional Use Areas

There was a concern that harvesting operations would infringe upon traditional native trapping areas.

Caribou Interim Direction

Data on the caribou herd such as calving areas, travel corridors and feeding grounds were largely unknown at the time of plan development. These knowledge gaps were a concern for the planning team.

Harvest Levels

There was concern that land base withdraws (e.g. OLL) would have serious impacts on the fibre supply to Abitibi-Consolidated and its' overlapping licences. The Iroquois Falls Mill operating license has a fibre requirement of 804,000 m^3. The Ministry Recognized Operating Level (MROL) was approximately 800,000 m^3.

Access

There was a concern that the public would object to the closure of major roads as planned in the road abandonment strategy.

All-Aged Management

Several concerns with respect to the implementation of careful logging (particularly Harvesting With Regeneration Protection (HARP)) were identified. These included the need to recognize the reduction in rotation times associated with HARP; acceptance of HARP as an alternative to clear-cutting; and acceptance that HARP techniques may be inconsistent with the traditional criteria for wasteful practices.

Remote Based (Wilderness) Tourism Strategy Withdrawals

Some areas in the northern portion of the Forest were subject to a twenty year no harvest agreement. The designation of these areas in the plan as "withdrawn" or "deferred" was identified as a planning issue which could affect wood allocations.

Eight Township Plan

In 1980, Abitibi signed a forest management agreement that placed a 125 metre reservation around 52 water courses. These reserves were removed from the licence area. Abitibi requested the removal of the reserves in keeping with the Cochrane District Land Use Guidelines.

Harvesting on MacDougal Point

A "no harvest area" on MacDougal Point was established in Iroquois Falls South to address First Nations interests. The designation required a review due to the impact on wood supply arising from OLL designations.

Crown Reserved Trees on Private Land

Strategies were required regarding Crown reserved trees on private lands. The allocation of this resource could have an impact on the long-term health of the Kirkland Lake Sawmill.

Disposition of Non-Utilized, Non-Merchantable Wood

Operators within the Iroquois Falls South Unit indicated a desire to utilize non-merchantable woody debris (slash) left after normal harvesting operations.

3.0. SUMMARY OF AUDIT FINDINGS

3.1. COMMITMENT

Corporate commitment to forest sustainability should be reflected in an organization's vision, mission and policy statements. These statements and policies provide guidance for the organization and should be reflected in the day-to-day operations of the organization.

Abitibi had a number of policy statements specific to sustainable forest management contained in its various publications, news releases and on its website. Its Environmental, Health and Safety, and Sustainable Forest Management policies committed Abitibi to a Company-wide Environmental Management System (EMS) to guide woodland practices while ensuring a commitment to sustainability. Abitibi attained ISO 14001 registration during the audit period.

Interviews with Abitibi staff revealed that policy documents were readily available and employees received regular communications, directions and training with respect to sustainable management directions. The field audit confirmed that activities were in accordance with company directions.

A 2004 Sustainability Report prepared by Abitibi contained a list of Aboriginal Principles that provided its employees with a framework for developing beneficial relationships with Aboriginal peoples. These principles included;

- Respecting the rights and culture of Aboriginal peoples.
- Respecting formal agreements and treaties signed between governments and Aboriginal governments, communities and peoples.
- Developing trust and mutual respect through open and honest communications.
- Developing and facilitating equitable business relationships with Aboriginal entrepreneurs.
- Encouraging participation from Aboriginal peoples and communities in forest management planning.

OMNR management guidelines and strategies for forest management in the Iroquois Falls Forest were contained in the Cochrane and Kirkland Lake District Land Use Guidelines and the more recent Ontario's Living Legacy (OLL) Land Use Strategy. Further sustainable forest management directions were contained in the OMNR's Statement of Environmental Values, the Policy Framework for Sustainable Forests and the 2005 policy statement "Our Sustainable Future."

The Cochrane and Kirkland Lake OMNR complied with OMNR policies and directions associated with forest sustainability and provided staff with the required training and information. Records review and interviews indicated information distribution and staff training were timely and current.

The OMNR Districts have had different responsibilities on the Forest. In the IFS (15% of the Forest) in the previous plan term, Abitibi had responsibility for management planning while OMNR was responsible for renewal. Tembec Industries conducted all harvesting and road construction. In IFN (85% of the Forest) Abitibi was responsible for the full delivery of forest management. The auditor noted some differences in the management approach on the different sub-units. These differences were partially due to differences in management approaches between the different OMNR Districts and Companies and can also be attributed to the biophysical differences between the two sub-units. For example, Tembec and Abitibi had moderately different approaches to harvesting methods, road construction, etc. The auditor concluded that these differences did not negatively impact the delivery of forest management during the audit period.

3.2. PUBLIC PARTICIPATION

While the focus of this audit was the planning and implementation of the 2000 FMP, the auditor also completed a general review of the public participation in the development of the 2005 FMP[7]. The following sections related to public participation refer exclusively to the 2000 FMP process unless the 2005 FMP process is specifically referred to.

3.2.1. LOCAL CITIZENS COMMITTEE

A Local Citizens Committee (LCC) is required to help the forest management planning team prepare the forest management plan. The committee must include local citizens representing a range and balance of community interests. LCC responsibilities include ensuring the effectiveness of public consultation, assisting with the identification and analysis of management alternatives, participating in the development of values maps, monitoring the implementation of the plan, inspection of Annual Work Schedules (AWS), review of previous audit recommendations, providing advice to the District Manager (DM) on plan amendments, and involvement in issues resolution. Each forest management plan must contain a LCC general statement of agreement or disagreement with the plan.

The auditor interviewed LCC members, OMNR and industry staff, and reviewed minutes of LCC meetings to determine the involvement and effectiveness of the committee in the forest management process.

Planning for the 2000–2005 FMP was undertaken with the knowledge that the Iroquois Falls Forest and the Iroquois Falls South Company Management Unit would be amalgamated upon approval of the new forest management plan. For the 2005 planning process both LCCs were re-constituted according to the terms of the 2004 Forest Management Planning Manual (FMPM) (effective September 1, 2004) within the required 6 month phase in period. LCC members were listed on the contributors' page of the FMP and an LCC report of activities was filed.

The Cochrane District LCC and the Kirkland Lake District LCC each had responsibilities for their respective jurisdictions on the Forest. However, since the Cochrane District contained the majority of the Forest it was assigned the lead role for plan development. A member of the Kirkland Lake LCC sat on the Cochrane LCC and was a member of the forest management planning team.

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[7] The 2010 IFA will investigate in detail the public consultation process for the 2005 FMP.

Membership for both LCCs was established by the respective District Managers and included a representative balance of interests from communities within and adjacent to the Forest. The auditor determined there was representation from First Nations with a direct interest in the Forest on both LCCs. Terms of Reference (TOR) for both LCCs were developed in accordance with FMPM requirements. Minutes of the LCC meetings indicated that discussions reflected the various members' interests. Members interviewed by the auditor were satisfied that they had the opportunity to present topics and fully participate in all discussions.

The Kirkland Lake LCC generally met its responsibilities, although it shared some of the concerns expressed by the Cochrane LCC (discussed below) regarding its capacity and expertise to fully meet those responsibilities.

The Cochrane LCC did not function for an eight month period (September – December 2001, and March – June 2002) due to member dissatisfaction with the workload, disagreement with respect to the LCC mandate, and poor attendance. The LCC also had a serious problem recruiting and retaining members. In response, the OMNR sent out 162 letters in an effort to recruit new members but this initiative failed. The auditor determined that issues associated with the functioning of the Committee and the recruitment of members included;

- Excessive time requirements associated with the responsibility for four Forests.
- Frustration with the complexity of the planning and plan implementation processes.
- A perception of not having the required forestry knowledge to be effective.

In July 2002, the OMNR used personal contacts to recruit new members to the LCC, and this approach was successful.

The auditor was informed by the OMNR that there would be a rationalization of management units in the Cochrane area that would reduce the number of Forests for which the LCC would be responsible[8]. The OMNR has also produced new training materials for LCC members that should be helpful. While these are positive initiatives, the auditor remains concerned that they will not resolve all the issues associated with the functioning of the Cochrane LCC. The following recommendation is provided to address these concerns.

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[8] The auditor was informed that the Cochrane LCC will be responsible for three forest management units in 2006.

Recommendation # 1:

The OMNR District Manager should conduct a workshop with past and present LCC members to discuss problems and develop strategies to enable the successful functioning of the Cochrane LCC.

For the 2005 FMP planning process, the LCC and its TOR met FMPM requirements. Membership included a balance of community interests, including First Nations. The Cochrane LCC continued to experience operational difficulties during the preparation of the 2005 FMP (e.g. adequate time, lack of training, inadequate technical background).

3.2.2. FMP STANDARD PUBLIC CONSULTATION PROCESS

Public consultation opportunities are to be provided during the forest management planning process. These include an invitation to participate in the planning process, two public information centres, and review of the draft plan and inspection of the approved plan. The public has an opportunity to request a Ministry of Environment and Energy (MOEE) "bump-up" of a specific proposed forest management activity to the status of an individual environmental assessment.

The auditor conducted interviews and reviewed public notices (e.g. Invitation to Participate, Notice of the First Information Centre, Notice of the Second Information Centre, Notice of Draft Plan Review, and the Notice of Plan Inspection) mailings and documents. All FMPM requirements were met. Opportunities for an individual environmental assessment were communicated in the public notices. No requests for an individual environmental assessment were made.

For the development of the 2005 FMP[9], the auditor completed a general review of the public consultation process (including the native people's consultation process). This review did not include a survey of individuals, organizations, or First Nations on the 2005 FMP mailing list. This review did, however, include a review of the 2005 FMP, planning team minutes, LCC minutes, and an interview with the 2005 Plan Author. The results of this review indicated that public consultation activities for the development of the 2005 FMP conformed to the FMPM.[10]

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[9] The 2010 IFA will investigate in detail the public consultation process for the 2005 FMP.

[10] The 2010 IFA will investigate in detail the planning process and implementation of the 2005 FMP.

3.2.3. NATIVE PEOPLES CONSULTATION

Native communities have the option to choose an additional consultation and documentation opportunity with respect to forest management planning, referred to as the Forest Management Native Consultation Program (FMNCP). In addition OMNR District Managers are required to conduct negotiations with native communities to identify and implement ways of achieving more equal participation by Aboriginal peoples in receiving benefits from forest management.

Invitations to participate in the forest management planning process were sent to the Taykwa Tagamou, Wahgoshig, Moose Cree First Nations, and the Beaverhouse Aboriginal Community. This invitation included an offer to utilize the FMNCP or the standard public consultation process.

The Taykwa Tagamou First Nation and the Wahgoshig First Nation elected to utilize the FMNCP. Native Background Information Reports, a Report on the Protection of Identified Native Values, and a Final Report on the Protection of Identified Native Values were produced for both communities.

The Moose Cree First Nation and the Beaverhouse Aboriginal Community utilized the standard consultation process. Interviewed representatives from the Moose Cree First Nation indicated that there were financial constraints and a lack of technical capacity within the community which limited their ability to participate effectively in the forest management planning process. The auditor was informed that the Moose Cree First Nation funding issue was related to their desire to conduct their own independent review of planning issues. Government funding was available for some forms of input (e.g. native values maps). However, the auditor was informed by the First Nation that additional funding was needed for survey work and the training of band members. Travel and accommodation expenses were paid for participation on the LCC and on the planning team. The provision of additional funding for First Nations to participate in FMP planning processes is a provincial issue. The auditor was informed that OMNR is working to address this concern and as such the auditor does not provide a recommendation.

Shortly after the 2000 FMP was approved the Taykwa Tagamou and Wahgoshig First Nations expressed concern over proposed harvesting near cultural sites (e.g. burial grounds) and the consideration of native concerns (e.g. traplines, cultural sites) in the FMP. This resulted in the blockade of a forest access road and suspension of harvesting operations on a portion of the forest for a period of time. The OMNR and Abitibi entered into six months of negotiations with both communities. During that period there were a number of committees set up to develop more effective working relationships. These discussions partially addressed OMNR obligations with respect to Condition 77 of the Draft Revised Interpretation and Guidelines, Timber Class Environmental Assessment. OMNR was involved in the development of a number of additional opportunities for First Nations that included bi-annual meetings to discuss potential employment opportunities (e.g. tree planting, boundary line marking) and to develop mutual agreements for social and economic benefits (e.g. harvesting contracts). The Wahgoshig and Taykwa Tagamou First Nations, Abitibi and OMNR developed a "Working Partnership Agreement" in 2000 that included First Nation training opportunities. Funding was also provided for a number of initiatives (e.g. values mapping). Cross-training programs were conducted with First Nation's contractors on culvert installations, forest management practices, and compliance reporting. These discussions and initiatives were largely successful and a renewed working relationship was established.

Agreements with the Wahgoshig and Taykwa Tagamou First Nations included opportunities to harvest 65,000 m^3 per year from the IFF. During 2004-2005 approximately 123,000 m^3 were licenced to both communities. Approximately eighteen Aboriginal people worked in mill and bush operations over the audit period. The auditor determined that Abitibi communicated on a regular basis with the First Nations logging companies to increase their operational involvement in the management of the Forest.

While there were numerous problems between the OMNR, the Company and native communities at the start of the plan period the auditor determined that an effective working relationship had developed by the end of the plan term. Both the OMNR and the Company substantially met First Nation FMPM requirements and Condition 77 obligations with respect to First Nations.

3.2.4. ANNUAL WORK SCHEDULE PUBLIC INSPECTION

Annual Work Schedules (AWS) must be prepared and approved prior to the commencement of operations. The AWS lists operations which were planned and approved in the forest management plan and that are scheduled for implementation that year. OMNR staff must ensure that they are complete and consistent with the FMP. The LCC inspects the AWS and the approved schedule must be available for public inspection.

Prior to the commencement of operations, notices were sent to stakeholders and placed in local newspapers. The LCCs inspected the Annual Work Schedules except for the period when the Cochrane LCC was not functioning. Section 3.2.1 provides discussion and a recommendation associated with the functioning of the Cochrane LCC.

3.3. FOREST MANAGEMENT PLANNING

While the focus of this audit was the planning and implementation of the 2000 FMP, the auditor also completed a general review of the planning process for the development of the 2005 FMP. The 2005 Plan Author was interviewed and planning team minutes were reviewed. This preliminary review indicated that planning activities conformed to the FMPM.[11]

The following sections refer exclusively to the 2000 FMP process unless the 2005 FMP process is specifically referred to.

3.3.1. PLANNING TEAM

The District Manager must appoint a planning team. The team is chaired by the Plan Author who must be a Registered Professional Forester (R.P.F.). The planning team must represent a wide range of natural resource expertise. A Terms of Reference must be developed by the Plan Author, and approved by the OMNR District Manager. It must identify all the tasks required for the preparation of the plan and identify the responsibilities of all planning team members.

For the 2000 FMP, the auditor interviewed the District Manager, the Plan Author and members of the planning team and reviewed minutes of meetings and related correspondence. A multi-disciplinary planning team was established and approved by the Cochrane District Manager. The planning team consisted of individuals with expertise in forest management, resource management planning, First Nations, fish and wildlife biology, forest ecology, lands administration, park management, fire management and compliance. The Plan Author was a Registered Professional Forester.

Planning team responsibilities, as identified in its Terms of Reference and in the FMPM, were met. The planning team communicated with the public through the use of notices, (i.e. newspaper ads, mail outs) letters and meetings with concerned individuals. The record of public consultation included approximately 110 transactions. Responses to the transactions were complete and addressed the correspondent's concerns. The planning team minutes indicate that issues were effectively dealt with.

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[11] The 2010 IFA will investigate in detail the planning process and implementation of the 2005 FMP.

3.3.2. RESOURCE STEWARDSHIP AGREEMENTS (RSAs)

Resource Stewardship Agreements (RSAs) were not required in 2000 FMPs. The planning team considered the "Process for Addressing the Resource-Based Tourism Policy (1997)" in preparing the Forest Management Plan. The District Remote Tourism Strategy was used as the policy document for this management plan. The auditor determined that this strategy was developed with the involvement of tourism operators.

The auditor determined that the implementation of the Cochrane District Remote Tourism Strategy was effective and addressed the elements of the 1997 Process for Addressing the Resource-Based Tourism Policy.

The 2005 FMP plan targets included negotiation of Resource Stewardship Agreements (RSA) with all interested tourism operators. Targets also included communications annually with each tourism operator to address annual operations and mitigate tourism concerns. During the audit period, nine tourist outfitters participated in the RSA process.

3.3.3. SOURCE OF DIRECTION

Documents which provide context and direction for the preparation of the forest management plan must be made available to the planning team and the LCC at the outset of planning.

For the 2000 FMP, a list of manuals, guidelines, policies, directives and administrative procedures was made available to the planning team as required and these were listed in the planning team Terms of Reference. The forest management plan objectives were prepared in accordance with the requirements of the FMPM and addressed forest diversity, sustainable social and economic benefits, silviculture and the provision of forest cover for those values that are dependent on forest cover. Management objectives were established within the context of broader direction in legislation, policy, regional strategic direction, local land use, and resource management direction.

The auditor determined that similar sources of direction were used for the 2005 FMP process.

3.3.4. INTRODUCTION

The Plan Introduction contained a properly prepared and signed statement of how OMNR's Statement of Environmental Values (SEV) under the Environmental Bill of Rights was considered in the preparation of the Plan. As required, an index to the environmental assessment components of the plan was included.

3.3.5. MANAGEMENT UNIT DESCRIPTION

The description of the Forest met the requirements of the FMPM. The Forest description tables adhered to required formats and included information about the administration, geology, current forest condition and other forest resources. Social and economic information was provided. An estimate of landscape processes for net primary productivity and water yield was provided.

The Forest Resource Inventory (FRI) data was updated to April 1, 2000 for the preparation of the FMP. The updates incorporated changes due to harvest and natural depletion and additions of free-to-grow areas into the managed Crown forest landbase. The sources of information used to update the FRI were included in the supplementary documentation.

Profiles of communities in the Cochrane and Kirkland Lake Districts were produced. They included a description of demographics and migration, the economic environment, and non-industrial uses of the Forest. These profiles met FMPM requirements.

Landscape Pattern and Forest Diversity indices were prepared, and indicated the management unit values for the appropriate indices at the provincial, regional, and sub-regional levels. A summary of the change in each index since the last plan was included and implications of changes reported. Non-spatial and spatial forest diversity indices from the Strategic Forest Management Model (SFMM) and the Landscape Ecological Analysis Program (LEAP) were reported on. To compensate for the lack of forest diversity indices in past planning terms, the Plan Author indicated that the indices were calculated at the beginning of the 2000 - 2020 plan period and will be calculated at the end of the 2005 operating plan term, to establish benchmark values.

The FMP listed nineteen selected wildlife species for which habitat needs were addressed. The species listed were representative of the Northeast Region, and included locally and provincially featured species (i.e. moose, marten, and caribou). The FMP listed vulnerable, rare, threatened, and endangered species and the text described their habitat requirements.

The FMP summarized the landscape processes of evapotranspiration, water runoff, and net carbon assimilation through the presentation of values for net primary productivity and water yield.

3.3.6. OBJECTIVES AND STRATEGIES /MANAGEMENT ALTERNATIVES

The auditor completed a general review of the process for the development and analysis of the 2005 FMP management alternatives. A detailed review of SFMM modeling was not undertaken, but the FMP was reviewed and the Plan Author was interviewed. The results of this review indicated to the auditor that the process for the development of management alternatives conformed to FMPM requirements.

The following sections refer exclusively to the 2000 FMP process unless the 2005 process is specifically referred to.

The FMP must establish direction for managing the forest in order to achieve forest sustainability which is defined as "long term forest health". Legislation and policy, resource management issues, the current state of the forest and the desired future forest condition all influence the strategic direction of the FMP. These factors are considered by the planning team and the LCC in the development of management objectives and strategies.

The auditor reviewed planning team and LCC minutes, supplementary documentation (e.g. Native Background Report) and the FMP. Interviews were conducted with the Plan Author, District Manager, planning team and LCC members, First Nations representatives, OMNR and forest industry staff. Value maps and resource model outputs (e.g. SFMM, SEIM) were also examined.

The forest management plan objectives were prepared in accordance with the requirements of the FMPM and addressed forest diversity, sustainable social and economic benefits, silviculture, and the provision of forest cover for values dependent on forest cover. Management objectives were developed within the context of broader direction from legislation, policy, regional strategies, local land use and resource management direction. The overall goal of the FMP was to provide a sustainable supply of forest products while maintaining biological forest diversity within the bounds of natural variation inherent to the region.

Six groupings of management objectives, including four groupings required by the CFSA, were defined:

- Forest Diversity Objective Group.
- Social and Economic Objective Group.

- Other Social and Economic Objective Group.
- Forest Cover Objective Group.
- Silviculture Objective Group.
- Best Management Practices Objective Group.

The plan included the development of comprehensive targets and strategies. The auditor determined that targets and strategies were logical and consistent. The objectives were used in the creation of a number of management alternatives which were examined to determine how well they provided benefits while ensuring sustainability.

Eight management alternatives were developed. These included one natural benchmark scenario (excluding harvesting renewal and fire suppression), three mandatory alternatives required by the FMPM (1996), and four other alternatives which examined the implications of the OLL and various levels of tending. A scoring system was employed to assign a score for each indicator or objective. All management alternatives used the same base level inputs (i.e. forest units, updated landbase (FRI), growth and yield, treatment response, and management costs) and considered the same objectives and indicators of sustainability. The difference between alternatives was a different level of emphasis placed on the various objectives. The management alternatives were measured against six measurable indicators of sustainability including: landscape pattern indices, frequency distribution of clearcut and wildfire size, forest diversity indices, managed Crown forest available for timber production (by forest unit), percent of harvest area utilized, and habitat for selected wildlife species. The results of forest modeling were assessed against measurable indicators of sustainability and various objectives at 20-year intervals for a period of 100 years. Indicator levels and the degree of objective achievement in the year 2020 were used for the comparison of management alternatives.

The auditor concluded the development of management alternatives portraying various circumstances and sets of management objectives was logical and well structured.

The Selected Management Alternative (SMA) had the highest overall score and provided stable multiple benefits over time. The Selected Management Alternative was considered sustainable because:

- It had the highest ranking of all the management alternatives.
- Wood supply was stable through time.

- The silviculture program and budget supported the selected harvest level and met plan objectives.
- Forest diversity and landscape diversity was expected to be within the spatial and non-spatial bounds of natural variation.
- Preferred habitat for selected wildlife species was maintained through time and was expected to be within the bounds of natural variation in most cases.
- The area of marten and moose habitat was stable through time and wildlife habitat objectives were met.
- It provided stable social and economic benefits including stable revenues to the Crown, stable jobs, maintained access, and protection for fish and wildlife values.
- It showed movement towards the emulation of natural disturbance patterns.
- It maintained a proportion of the forest in older age classes.
- It was consistent with the desired future forest condition.
- The area of core marten habitat met plan objectives.

The auditor determined that documentation of the analysis of management alternatives supported the goal of sustainable forest management and the achievement of management objectives.

The various assumptions used to develop modeling inputs for the land base definition, forest dynamics and silvicultural options were reviewed by the auditor and were reasonable and based on the best available information. Natural forest succession rates, successional pathways and the age of the current and future forest units were well structured and logically developed. Future depletions associated with riparian reserves prescriptions were incorporated in the analysis of management alternatives.

Assumptions used in the development of yield curves were reasonable. The reductions of landbase for forest access roads and landings (2%) were reasonable, based on auditor field observations of the slash management program. The rationale for the determination of mature and over-mature age thresholds was reasonable.

A 15% decrease/increase in harvest area by forest unit was allowed on the IFN but a factor of 20% was allowed on the IFS. Differences in harvest flow area and volume between the two sub-units were due to different sized land bases and wood supply dispositions.

The auditor concluded that the outputs from SFMM supported the analysis of management alternatives and the goal of sustainable forest management.

The 2005 Selected Management Alternative had the best balance of timber and non-timber objectives, and provided the best balance of objectives and indicators of sustainability over time. More specifically:

- It provided forest diversity values, managed Crown forest areas, and wildlife habitat areas within the natural bounds.
- It had the highest scoring for both timber and non-timber objectives and had one of the highest scores for indicators of sustainability.
- It had low silvicultural investments, lower energy consumption, and demand for water.
- Wood supply was stable in the long term and met plan objectives.
- It provided stable social and economic benefits.
- It moved towards the desired future forest condition.
- Landscape diversity was expected to be within the spatial bounds of natural variation.
- The twenty-year disturbance patch patterns showed movement towards the natural disturbance patterns.
- It maintained a proportion of the Iroquois Falls Forest in mature and over-mature age classes.
- The silviculture program and budget supported the selected harvest level and met plan objectives.

3.3.7. OPERATIONAL PLANNING

Operational planning selects areas for harvest, tending, and renewal operations for the five-year term of the forest management plan. Preferred silvicultural treatment packages and the silvicultural ground rules are identified and prescriptions to protect specific values are developed through Area of Concern (AOC) planning. Locations of new primary and secondary road corridors are determined.

The auditor interviewed the Plan Author, planning team members, LCC members, and Abitibi and OMNR staff. Planning team minutes, supplementary documentation, silvicultural guides, forest operations prescriptions (FOPs), wood supply commitments, compliance plans, values maps and the FMP were examined.

The OMNR set the broad direction for planning and provided specific direction with respect to managing the forest for featured and selected wildlife species such as caribou, moose, and marten. Abitibi staff was responsible for the determination of road locations and harvest allocations. Public input was considered in the process.

Documentation of AOCs was complete and in place for the planning of operations. All values maps and supplementary documentation were located by the auditor. Each AOC was numbered, and a separate page in the plan summarized the value being protected, the location, and the AOC prescription. Biological and habitat information for caribou was being collected by the OMNR and the Company to increase the understanding of caribou populations and habitats on the Forest.

Planning of AOCs included alternative methods of operations for AOC protection as required by the FMPM.

OMNR, Company, and LCC representatives also expressed concerns about the general applicability of marten guidelines on portions of the Forest, indicating that careful logging methods such as CLAAG and HARP may satisfy the intent of the guidelines on a broader scale. There was an additional concern that the "guidelines" were "rules" that must be adhered to regardless of local conditions and applicability. The auditor understands that guidelines are intended to identify key principles and recommendations that must be adapted to fit local situations based on the professional judgment of experienced practitioners. Deviations must be recorded and rationalized in the forest management plan on the basis of compelling biological or socio-economic concerns. Flexible, adaptive use of the marten guideline was demonstrated with the reduction in height of snag trees on the Forest. However, the auditor is of the opinion that local OMNR and Abitibi staff do not fully appreciate the flexibility that they do have with respect to guideline implementation.

Suggestion # 1:

Corporate OMNR guideline training should reconfirm the degree of flexibility that planning teams have in implementing guidelines.

The auditor concluded that there is an issue with respect to public and forest industry understanding of the purpose and the development process for guidelines. For example, while field staff (OMNR, Company) supported the protection of wildlife habitat through guidelines, they also expressed concerns that guidelines may be developed with inadequate:

- Science or testing.
- Understanding of social and economic considerations.
- Reference to local forest conditions.
- Understanding of direct industry costs.

The auditor was informed by Corporate OMNR that the teams developing guidelines include scientists, forest industry and non-government representatives with the intent that the guidelines respond to a mixture of science, social and economic demands. Auditor interviews and discussions with local OMNR and company staff revealed that this intent is not well known. The following suggestion is provided.

Suggestion # 2:

Corporate OMNR should increase understanding (e.g. educational material) of the rationale and process for developing and implementing forest management guidelines.

Silvicultural Ground Rules (SGRs) were developed according to appropriate guidelines. The Silvicultural Treatment Packages (STP) represented the range of acceptable types of harvest, renewal, and tending treatments for the appropriate forest unit. Each STP included the silvicultural system, the harvest method, the renewal and tending treatment, and the regeneration standards and targets.

Harvest operations were selected from areas that met the eligibility criteria and were consistent with the AHA. Separate selection criteria were developed for each of the activities of harvest, renewal, and tending. Stands that were deemed eligible for silviculture met specific stand characteristics such as industrial requirements, operability (i.e. topographical, economic constraints), location of previous harvesting areas, and access. Consideration of natural disturbance sizes and their relationship to past operating areas was also incorporated into the selection of stands for harvest as was consideration for other forest uses and users. Contingency areas and volumes for a 1-year period were summarized in the FMP as required and wood supply commitments were identified and addressed. There were no identified salvage areas in the FMP (an unanticipated salvage operation was carried out during the plan period (Section 3.4.2)).

The auditors determined that roads planning was consistent with FMP objectives and met FMPM requirements. The public was provided with opportunities to review the FMP road plan and concerns were addressed.

Independent Forest Audits were not conducted on the Iroquois Falls Forest and Iroquois Falls Company Management Unit in 2000 until after the development of the FMP, thus their recommendations could not be incorporated in the FMP. However, recommendations directed at forest management operations were addressed in the 2003 Annual Report. During the field audit the auditors observed implementation of the recommendations with respect to slash management and full utilization of merchantable timber on upland sites.

Compliance Strategies were completed in accordance with the guidelines and were signed by the Cochrane and Kirkland Lake District Managers.

3.3.8. PLAN REVIEW, APPROVAL

A draft FMP must be submitted for OMNR and public review, and alterations required by the OMNR must also be made available to the public. The draft and final plan must be certified by the Plan Author, and the final plan must be certified by the OMNR District Manager and approved by the OMNR Regional Director.

Timing of the draft plan submission and review were delayed from the original schedule identified in the planning team Terms of Reference; however, adjustments in planning effort were made so that the date of plan approval remained January 2000.

The FMP included all appropriate certification and approvals. The contributors' page was complete and the certification included the required exception reference for prescriptions that differed from specific direction or recommendations in the implementation manuals.

3.3.9. PLAN AMENDMENTS

All amendments were properly prepared and signed. Over the five years of plan implementation thirty-six FMP amendments were approved, of which thirty-four were classified as administrative and two were classified as minor. The amendments were documented in the required master list, and the approvals and public consultation processes were carried out as required. All amendments were circulated to the mandatory locations as required by the FMPM.

The auditor determined the amendments were required and properly addressed unanticipated issues that developed during the plan period.

3.3.10. CONTINGENCY PLANS

No contingency plans were implemented during the plan term.

3.3.11. ANNUAL WORK SCHEDULES

The AWSs met the requirements of the FMPM. Forest Operation Prescriptions (FOPs) were referenced in the AWS and were certified by an R.P.F. All FOPs were completed before operations commenced.

3.4. PLAN IMPLEMENTATION

3.4.1. AREAS OF CONCERN

An area of concern is a defined geographic area that protects an identified value. A detailed prescription is developed for the area in order to prevent, minimize, or mitigate adverse effects of operations on the identified value.

The field audit included an inspection of moose aquatic areas, water crossings, riparian areas, and areas where various wildlife guidelines had been implemented. This was supplemented with a review of AOC prescriptions, values maps and various guidelines in effect during the audit term.

A random sample of AOCs across the Forest indicated that prescriptions were consistent with the FMP and AWS and were sensitive to specific site conditions. Record reviews indicated that planned harvesting, renewal and tending activities reflected the values attributed to AOC and included specific prescriptions to ensure protection (e.g. spray buffer adjacent to riparian areas). Supporting documentation was provided.

Over the plan period there were nine compliance incidences reported for AOCs, all of which were minor.

3.4.2. HARVEST

The audit sampled approximately 14% of the planned harvest activities as a primary audit activity and a significant number of sites where harvesting had occurred but was not the primary audit activity (i.e. planting, tending and site preparation sites).

HARP and CLAAG harvesting techniques were applied extensively on the IFF, particularly in IFN. Both techniques have been approved for use by OMNR. The LAMF, in cooperation with the OMNR, Abitibi Consolidated, and the Canadian Forest Service had conducted several local investigations with respect to the appropriateness of these practices for harvest and renewal. Conclusions from those investigations indicated that these harvesting techniques are effective. The auditor found no evidence to suggest that these techniques were detrimental to long term forest sustainability. This conclusion is supported by local research, and auditor observations of successful natural regeneration that approximated the original stand compositions in areas where harvesting had occurred.

The 2000 FMP forecast maximum allocations for all forest units. Overall an undercut by volume and area is occurring on the IFF. Actual harvest volumes achieved 78% and 84% of planned levels respectively for softwoods and hardwoods for the first four years of the plan term[12].

The audit site inspections found that operations were conducted in accordance with the silvicultural ground rules, that they protected soils and waterways and typically demonstrated good utilization. Three levels of treatment intensity (e.g. extensive, basic, intensive) were described in the Silvicultural Treatment Packages (STP). Harvest activities were consistent with the FOPs and were appropriate to specific site conditions. The auditor determined that forecast of revenue/expenditure adequately reflected operational requirements and met the planned objectives. Harvest areas were approved in the AWS and the areas for harvest operations were selected from areas that met FMP eligibility criteria.

While there were no identified salvage areas in the FMP, a salvage operation was conducted during the audit term to salvage 892 hectares of Po damaged by tent caterpillar. All required documentation for the salvage operation was completed.

Harvest operations were primarily carried out with tracked feller bunchers, grapple/clam bunk skidders (Transgesco) and slashers. Some minor instances of localized rutting were observed during the field audit. The auditor was informed that operators were cognizant of site damage and had taken steps to reduce or eliminate its occurrence. The auditor observed the use of high floatation equipment and discussed with Company representatives procedures that are in place to reduce rutting (e.g. seasonal harvesting restrictions). Auditor field observations of harvested areas confirmed that these procedures are effective.

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[12] At the time of the audit, final reporting for 2005 was not complete.

PHOTOGRAPH # 1. HARVESTING WITH REGENERATION PROTECTION (HARP).

The auditors noted that over the plan term Abitibi had experienced compliance issues related to wasteful practices. Compliance documents indicated that merchantable and marketable wood remained on some sites as pieces or as trim ends. This issue was resolved when the Company moved to tree length operations. Merchantable wood in slash piles was also reported as a compliance issue during the plan term. Appropriate remedial action was undertaken by the Company and Overlapping licencee. The auditor concluded that the Company responded effectively to compliance problems.

The previous Independent Forest Audit recommended that Abitibi develop an effective slash management strategy for immediate implementation in the 2001-2002 Annual Work Schedule. A slash piling and burning program was implemented, but slash management on backlog areas was not carried out primarily due to cost. No targets were established for slash piling/burning in the 2000 FMP. Targets in the AWS were to "pile slash in all blocks once harvesting has been completed". Abitibi informed the auditor that the objective on the IFF is to reduce slash Abitibi had two strategies; to reduce the top diameter of harvested stems and initiate slash piling and burning where slash accumulation was excessive. The auditor also determined that

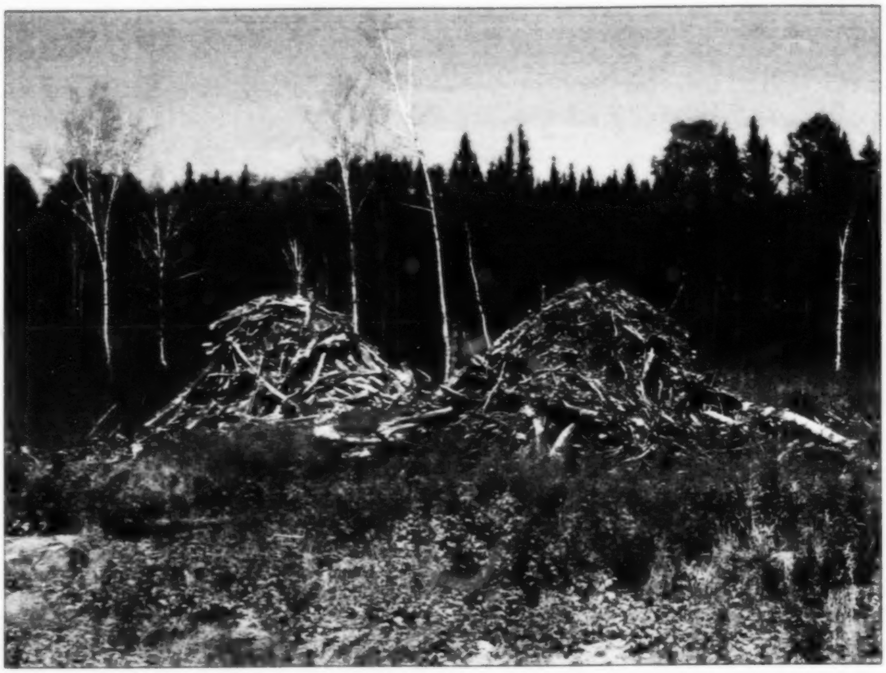
Abitibi was actively investigating alternatives to slash piling and burning such as total slash pile removal and the use of slash for bio-energy.

The level of slash burning has not increased due to local objections to slash burning (e.g. threat of wildfire) and slash burning was expensive. During the audit period, the slash pile burning program met with mixed results (less than 50% of the piles were ignited). Approximately 50% of the piles ignited had poor burn results due to poor weather and pile conditions (e.g. dirt in piles). To address this issue, Abitibi adopted the use of a backhoe to create large bee-hive shaped piles which tended to burn more efficiently (Photograph # 2 & 3). Other problems resulting in the delay or cancellation of the planned burning program included the late submission and late approvals of slash burn plans and problems with unacceptable percentages of merchantable wood in slash piles requiring remedial action (2002-2003). These problems had been largely resolved by the end of the plan term.

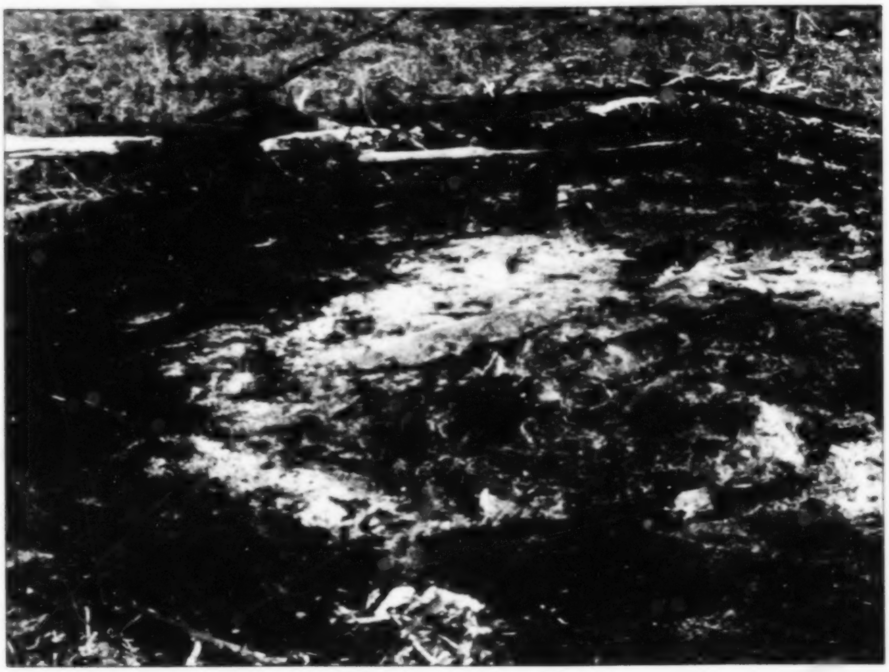
The auditor concludes that the current company approach to slash management is realistic and appropriate given the economics and logistical issues associated with slash management. However, the auditor believes that additional effort is required to reduce levels of slash on the Forest.

Recommendation # 2:

Abitibi should establish a measurable target and a schedule for slash reduction over the next five years.



PHOTOGRAPH # 2. "BEE-HIVE" SLASH PILES ON THE IFF.



PHOTOGRAPH # 3. SUCCESSFUL SLASH PILE BURN WITH FOLLOW-UP PLANTING TO JACK PINE.

During the plan period there was an increase in the documentation of area classified as by-pass and accumulating reserves. On the IFF this area approximated 10% of the allowable harvest area. Interviews and record reviews indicated that this level of bypass is consistent with site conditions and operational constraints on this type of forest. By-pass was the result of a number of circumstances normally associated with operability and marketability of the timber (e.g. areas which were too soft to harvest in the summer and were too small or remote to return to in the winter). There is no requirement to record information on by-pass and accumulating reserves in the forest inventory. However, it is a requirement to have the accumulating reserves in the SFMM base model assumptions prior to analysis. The auditor determined that this had occurred and that issues of by-pass and accumulating reserves was being properly documented and managed by the Company.

During the field audit, the auditor observed improvement in the application of the "*Forest Management Guidelines for the Provision of Marten Habitat*" (OMNR 1996). The field application of this guideline requires the retention of specified numbers of snag trees on harvest sites. In the first years of the plan, snag trees tended to be smaller than average stand diameter and in some instances snag retention targets per hectare were not achieved (Photograph # 4). Sites harvested in the latter years of the plan period retained more stems, and on average retained larger diameter residuals (Photograph # 5).

PHOTOGRAPH # 4. RETENTION OF SMALL DIAMETER SNAG TREES IN A CUTOVER EARLY IN THE PLAN TERM.

PHOTOGRAPH # 5. EXAMPLE OF IMPROVED SNAG TREE RETENTION STRATEGY ON THE IFF.

The auditor noted that on the majority of sites where snag trees had been retained a large number had blown over. Interviews with OMNR staff indicated that these downed trees still provided value as woody biomass and wildlife habitat. However, Company staff questioned the added value of leaving trees which could be subjected to wind throw in areas that already had large amounts of woody debris (e.g. branches and tops). Company officials pointed out that there was an economic cost associated with the implementation of this guideline and questioned its added value for wildlife. Due to the high incidence of wind throw observed during the audit site inspections, the auditor also questions the benefit of the guideline on some sites.

Suggestion # 3:

Future planning teams should carefully assess the biological and economic costs and benefits of the marten guidelines specific to the forest attributes and harvesting systems utilized on the IFF.

This example underlines the importance of flexibility and creativity in finding solutions to forest management problems. In sites susceptible to wind throw, alternate strategies such as clumping of snag trees could be considered to enhance chances of maintaining vertical wildlife habitat. The fact that the Careful Logging Around Advanced Growth (CLAAG) and Harvesting With Regeneration Protection (HARP) logging systems retain a large component of standing residual trees also provides alternate methods of retaining habitat (see Photograph # 1).

3.4.3. RENEWAL

The audit sampled approximately twenty percent of artificial and natural renewal activities conducted during the audit period. All activities observed were approved in the FMP and complied with the applicable silvicultural ground rules. Renewal activities were consistent with the FOPs and were appropriate to specific site conditions. The auditor review of survey records indicated that harvested areas were regenerating and achieving free-to-grow status in planned time periods. The field audit confirmed that, with few exceptions, the Forest is regenerating (Photograph # 6).

There was a significant shift away from artificial regeneration to natural regeneration alternatives (e.g. CLAAG) during the plan term. The FMP targeted one-third artificial and two-thirds natural regeneration on harvested areas. The predominant IFF forest type is peatland black spruce which is conducive to natural regeneration back to black spruce. The increased utilization of poplar also contributed to the increased trend to natural regeneration. CLAAG and HARP harvesting techniques have also reduced the requirement for artificial regeneration.

The shift towards increased natural regeneration has not resulted in significant changes in forest composition on the IFF (i.e. a shift from conifer-dominated stands to mixed wood stands). The Comparison and Trends Analysis Report which describes the productive forest land base composition over three planning terms (1990, 1995 and 2000) indicates that forest units have maintained their relative representation over time.

TABLE 2. RELATIVE REPRESENTATION OF FOREST UNITS ON THE IFF BY OPERATING TERM

FOREST UNIT	**Composition by Percent**		
	1990	**1995**	**2000**
Spruce	60.0	61.4	63.6
Balsam Fir	3.6	3.2	2.8
Jack Pine	4.1	4.1	3.7
White Birch	2.3	2.1	2.1
Poplar	11.0	10.4	10.6
Other conifer	0.7	0.6	0.4
B&S/NSR	18.4	18.3	16.8
Total:	100%	100%	100%

Abitibi and the OMNR are developing long-term monitoring and assessment programs for these techniques. The auditor inspected a number of CLAAG and HARP sites to determine levels of natural regeneration on harvested strips. These treated sites had adequate natural regeneration.

Residual stems retained in the HARP treatments typically allow harvest sites to be classified as FTG within three years following treatment. CLAAG sites are typically declared FTG within 11 years of treatment. The auditor was informed by Abitibi staff that rotation ages of the future stand could potentially be reduced by twenty years. It is the auditor's opinion that the CLAAG and HARP are effective harvesting techniques on the IFF.

Other sites designated for natural regeneration (e.g. polar forest units) inspected during the audit were successfully regenerating.

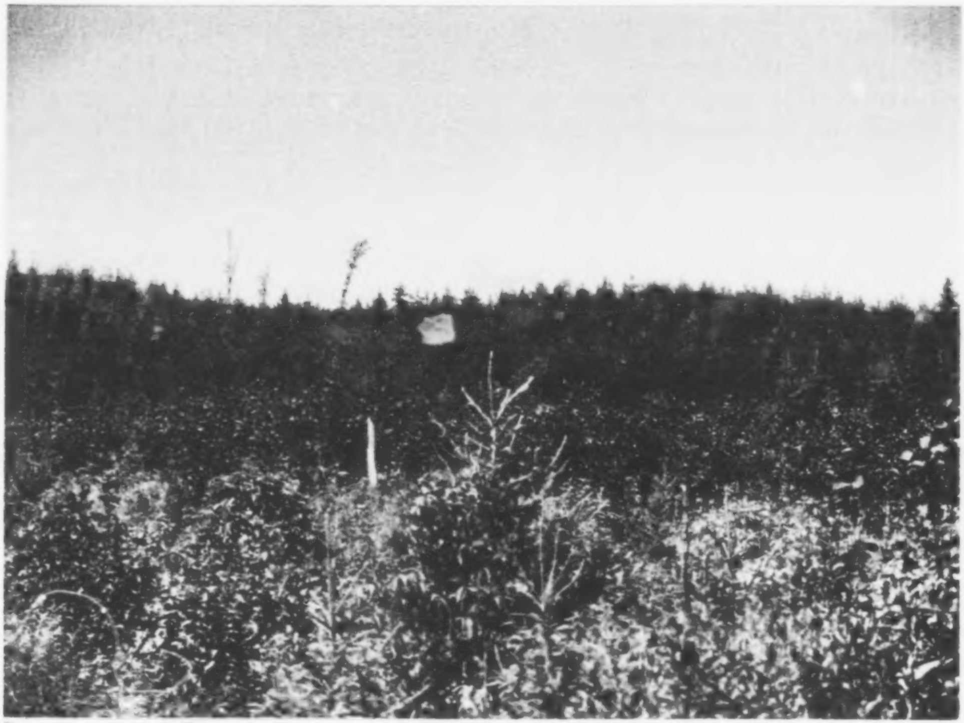
During past plan terms the artificial regeneration program accounted for approximately 66% of the renewal effort and natural regeneration represented 33% of the renewal effort. For the 2000 plan term, the reverse was true and planting was conducted on approximately one third of the area scheduled for renewal. Tables 3 and 4 summarize planned vs. actual average annualized natural and artificial regeneration for the first 4 years of the audit period. Fifth year results were not available at the time of the audit. Shortfalls in planned renewal targets are reflective of lower than planned harvest levels.

TABLE 3. IFN PLANNED VS. ACTUAL RENEWAL (HA) 2000-2004[13]

Regeneration	Planned Area (Ha)	Actual Area (Ha)	Percent Achievement
Natural Regeneration	5,030	2,936	58%
Artificial Regeneration	2,651	2,250	85%

TABLE 4. IFS PLANNED VS. ACTUAL RENEWAL (HA) 2000-2004[14]

Regeneration	Planned Area (Ha)	Actual Area (Ha)	Percent Achievement
Natural Regeneration	985	862	88%
Artificial Regeneration	507	414	85%



PHOTOGRAPH # 6. FREE-TO-GROW PLANTATION.

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[13] Based on Annual Report Table 6.

[14] Based on Annual Report Table 6.

After 2000, the use of direct seeding as a renewal method declined as company surveys indicated that direct seeding with black spruce did not appreciably increase renewal success on naturally regenerating sites.

The Company routinely planted nutrient loaded seedlings in its artificial renewal program. The nutrient loaded seedlings were deemed as better early competitors on sites. Based on field observations the auditor concluded that this was an appropriate and successful practice.

The auditor review of the Comparison and Trends Analysis of Planned vs. Actual Forest Operations Report indicated that over the three planning terms the total area treated for regeneration (artificial and natural) approximated the total area depleted. For the IFN the total annualized area harvested was 18,508 ha and the total area declared successfully regenerated was 17,856 ha (96%). For IFS, the total annualized area harvested was 5,699 ha and the total area declared successfully regenerated was 5,028 ha.

The auditor noted that a backlog of regeneration assessments exists on the Forest. Progress had been made during previous terms to address the backlog and the amount of area had declined considerably since 1990 (e.g. 152,676 ha were classified as Barren and Scattered/NSR/Depleted, by 2000 this number had decreased by approximately 11% (16,735 ha to 135,941 ha). The relatively large area remaining within the classification was largely reflective of old depleted areas which had yet to be assessed for free-to-grow status. During the plan term (2000-2004) the Company assessed 26,780 ha for FTG status. Ninety-one percent of the surveyed area was declared FTG (24,415 ha).

Abitibi has an objective to determine the status of older B&S and NSR sites. It is anticipated that older B&S/NSR/Depleted areas will be reclassified in the 2007 FRI. The auditor was informed that Abitibi's annual free-to-grow assessment program will survey an area equivalent to the average annual depletion and also assess a portion of the older B&S areas in order to address the current backlog. The auditor concludes that the backlog of regeneration assessments should be a priority for the Company and provides a recommendation.

Recommendation # 3:

Abitibi must take immediate action to address the existing backlog in regeneration surveys (free-to-grow) on the Forest.

There were two major forms of site preparation used on the Iroquois Falls Forest. Winter shear-blading was carried out under frost conditions on all clay and peatland sites to minimize site disturbance. Disk trenching was carried out on sandy sites in the summer to remove thick duff layers for subsequent planting to jack pine.

The field audit inspected approximately 21% of the areas treated by mechanical site preparation and approximately 20% of the sites tended by aerial or ground chemical spray. The auditors determined that the site preparation program was conducted in a fashion that minimized site disturbance.

During the FMP term, actual mechanical site preparation on the IFF was underachieved at 47% of planned area (planned 1,647 ha, actual 782 ha). This reduction in the area of mechanical site preparation took place entirely in the spruce forest unit sites. The requirement for winter site preparation was reduced as careful logging methods on upland and lowland spruce sites resulted in considerably more natural regeneration compared to more conventional clearcutting. Through field monitoring, Abitibi also determined that on many sites machine travel corridors were sufficiently disturbed to enable planting without site preparation. This was confirmed by audit site visits.

During the audit period, Abitibi also limited its application of site preparation on upland clay sites as a strategy to reduce ground disturbance thereby avoiding competition problems from grass and raspberries which proliferated on disturbed sites.

Additionally, the auditor was informed that Abitibi's acceptance of a more mixed component of regeneration, including balsam fir and aspen on more productive sites, resulted in a reduced requirement for site preparation. During interviews the auditor was informed of both positive and negative implications of reduced site preparation and planting. For example, the acceptance of a more mixed wood component in some regenerating stands increases stand biodiversity and can be expected to provide a mix of timber products and species in future harvests. On the other hand, stands with a significant balsam fir component may be susceptible to future budworm infestations.

The auditor reviewed these issues and concluded that the increased reliance on natural regeneration and the reduction in the level of site preparation conducted during the audit period had not jeopardized long-term forest sustainability. This conclusion is based on the following observations:

- A significant change in forest composition has not occurred on the Forest (see Section 3.4.3).

- Mixed forest types only represent approximately 25% of the total productive forest area of the IFF.
- Mixed forests types occur primarily in IFS which in turn represents 15% of the total forest area of the IFF.
- The majority of the Forest consists of lowland black spruce on peatlands sites (54%) which will be retained in spruce working groups. Additionally, poplar forest units (11%) and jack pine forest units (7%) are expected to be maintained at their relative representation levels over time. Auditor site inspections indicated that these forest types are being adequately renewed.
- All silvicultural activities were conducted in accordance with the approved FMP.

Auditor field observations of forest renewal activities indicated that the Forest is adequately regenerating.

3.4.4. TENDING AND PROTECTION

Abitibi met regulatory requirements with respect to chemical use. Chemical vegetation control procedures and policy were addressed with the Environmental Management System. The auditors determined that tending programs were approved in the AWS and included all the required buffers.

The aerial herbicide release program consisted of releasing naturally regenerating black spruce from alder competition using *2,4-D* and releasing planted trees from competing vegetation with Glyphosate. The auditor concluded that the herbicide program was effective. The sites that received herbicide treatments were considered to have required the treatment, and herbicide applications were confined to the treatment area with no signs of drift or overspray. For the IFF, the chemical tending program remained relatively constant at just over 3,000 hectares.

Abitibi used varying application rates for the control of aspen. The Company applied aerial spray in a striped pattern to release corridors of planted stock while at the same time protecting the hardwood component in the non-sprayed strips. Company representatives indicated that the program is being monitored for effectiveness. In treated areas, visited by the auditor, aspen control was achieved. Hardwood in the non-sprayed strips was being maintained enhancing species richness.

3.4.5. RENEWAL SUPPORT

Abitibi was a founding member of a northeastern tree improvement initiative started in 1986. The Company has been a contributing member since that time. The purpose of the initiative was to develop improved seed for more successful regeneration. An estimated 5% improvement had been attained over regular seeds. Work was progressing during the audit period on second generation black spruce and jack pine orchards with a projected target of a 15% improvement over regular seeds.

Interviews with Abitibi staff indicated that seed available from orchard sources combined with the cessation of aerial seeding had resulted in seed levels being more than adequate to meet anticipated planting needs on the forest.

3.4.6. ACCESS

The auditors traveled on primary, secondary, and tertiary roads constructed and/or routinely used during the five-year audit period. The field inspection was supported by a review of the FMP, AWS, and implementation manuals.

Primary and secondary roads were typically constructed on eskers in order to avoid the costs of building roads on clay. Most of the access on the Forest was via winter road. Temporary winter stream crossings were built to required standards. All-weather roads were built to required standards. A review of the compliance records for the Forest indicated one Not in Compliance (NIC) report which related to a road. In 2004-05, a section of the Payntouk Secondary Road was located outside the approved road corridor in an attempt to utilize higher ground. The significance was assessed as minor as no new values were impacted and forest sustainability was not compromised. A warning letter was issued to the Company.

Abandoned company roads not required for operations were allowed to deteriorate. The removal of culverts and bridges on abandoned roads was based on a company assessment of safety considerations. While travelling on abandoned roads, the auditor observed three sites where culverts had washed out resulting in stream siltation. It is the auditor's opinion that environmental concerns should also be used to guide decisions regarding the appropriateness and timing of the removal of culverts and/or bridges.

Recommendation # 4:

Abitibi-Consolidated's road abandonment strategy should assess environmental impacts related to the timing and removal of culverts and bridges.

Water crossings viewed by the auditor were generally well constructed and were in accordance with the FMP, the AWS and the guidelines. Many of the stream crossings sites observed were temporary winter crossings. Specific guidelines had been followed to construct the winter crossings and following operations, stream banks had been rehabilitated as required.

3.5. SYSTEMS SUPPORT

3.5.1. HUMAN RESOURCES

Several members of Abitibi-Consolidated planning and senior staff had a long work history on the Forest. Forest management activities on the Forest have benefited from the extensive knowledge and experience of these individuals. During the plan term there was a turnover of OMNR foresters assigned to the IFF in the Cochrane District. The auditor found no evidence that the transition between foresters negatively impacted forest management operations.

The auditor sampled employee training plans for those individuals listed in the Audit Plan. Training included a full range of safety, EMS, and forest management programs. Training course attendance was planned but also was highly opportunistic based on course availability and staff workload, vacations and other factors. Abitibi also provided annual training to subcontractors and overlapping licences which included the company's EMS requirements and aspects of the FMP implementation manuals. OMNR staff that had been on the Forest for a long period of time had completed appropriate training. Appropriate training programs were in place for new staff.

3.5.2. DOCUMENTATION AND QUALITY CONTROL

Abitibi records were accessible, centrally stored, and updated. The Company effectively utilized a geographic information system (GIS) as a decision support tool for forest management planning, record and document control, and other database functions. The system also facilitated tracking of silvicultural treatments on the Forest.

With respect to IFF activities both the Cochrane and Kirkland Lake OMNR had up-to-date records and documents. The auditor did determine that OMNR copies of some tables in Annual Reports contained different information than those in Company reports. A recommendation is provided in Section 3.6.2. The adoption of the Forest Information (FI) portal as the electronic repository of "official documents" should resolve similar issues in future. Both OMNR Districts provided the auditor with requested records and information in a timely manner.

The auditor determined that both the OMNR and the Company had effective record management systems.

3.6. MONITORING

3.6.1. GENERAL MONITORING

Monitoring is conducted to document observations of the effects of forest management on forest cover and forest values.

Abitibi-Consolidated conducted Forest Operation Inspections in accordance with OMNR standards on all Company and Third Party operations. Methods of monitoring adopted on the Forest to determine the effectiveness of silvicultural treatments included:

- Pre-treatment surveys.
- Survival plots established in all planted areas.
- Free-to-Grow surveys.
- Permanent Sample plots.
- Evaluations of site preparation versus no-site preparation (annual).

The Company had developed remedial action plans, conducted additional surveillance, and taken remedial actions as required in instances where planned targets or objectives were not attained. For example, Abitibi was attempting to reduce the application of herbicides on the forest, and was monitoring results. The Company had also requested that the Lake Abitibi Model Forest (LAMF) investigate criteria and indicators related to operating on moist sites to identify the severity of grass competition.

There are two OMNR Districts involved in compliance planning and delivery on the Iroquois Falls Forest. Cochrane District had responsibility for the northern part of the unit and Kirkland Lake had the southern part. Both Districts produced five-year District Compliance Strategy documents (1999-2004) that met FMPM requirements. After 2004, OMNR Districts are only required to prepare Annual Compliance Operation Plans (ACOPS). The quality of ACOPS improved over the plan term. The Review and Analysis column of the Compliance Activity Schedules of the ACOPS was used to assess performance, to plan the following year's activities and for review and audit purposes. Kirkland Lake District completed the Review and Analysis column but Cochrane District did not.

ACOP compliance inspection targets were not met by either District. Explanations provided to the auditor included changing harvest levels, changing priorities and shortages of trained staff within OMNR.

Compliance effort by OMNR was determined by the scale of operations, the Company compliance effort, the compliance history of the Company, and OMNR staffing availability. The SFL increased its compliance effort over the audit period, with compliance reports (FOIR's) steadily increasing from 79 in 2001-02 to 197 in 2004-05. In the final year there were 223 FOIR's (OMNR and Industry combined) with eight non-compliance reports.

Over the plan period there were 811 Forest Operations Inspection Reports (FOIR's) completed by Industry and the OMNR.

In the auditor's opinion, the monitoring program was appropriate for the level of activity and the compliance history on the Forest. Overall, the Company had good compliance planning and a strong commitment to achieving compliance on the forest. OMNR's effort, although not fully meeting targets, was sufficient to monitor Company operations.

Based on field audit observations and a review of FOCIS and FOIP reports, the auditor did not discern any significant compliance differences between the IFS and IFN sub-units.

Lateness of submission of In-Compliance (IC) reports was an issue. Reporting deadlines in the Forest Operation Information Program (FOIP) for submission of IC reports had increased from 10 days to 20 days but had not resolved the problem. An initial review by OMNR of 2004-05 FOIP reports indicated that OMNR reporting times ranged from 3 days to 88 days. OMNR assessment of industry submissions also identified late submissions, one being as late as 259 days. Improved performance is needed by OMNR and industry to meet Forest Information Manual (FIM) standards.

Recommendation # 5:

OMNR and industry should review their FOIP reporting performance and examine ways to meet reporting requirements.

When non-compliance did occur, it was reported quickly and action was taken immediately to rectify the situation. Where necessary, OMNR took the appropriate punitive steps in accordance with the Forest Compliance Handbook.

3.6.2. ANNUAL REPORT

An Annual Report (AR) is prepared which summarizes the forest management operations carried out during the preceding year. Annual Reports are prepared for a 12-month period (April 1- March 31). There are two submissions, a spring submission due on or before April 15 and a fall submission due on or before November 15. The purpose of the AR is to document the annual implementation of forest management operations and to monitor the progress towards achieving targets identified in the FMP. AR information is used locally to update FRI data and silvicultural information systems for the management unit and to update provincial records. The Plan Author is responsible for the preparation of the AR, although the OMNR has responsibilities for specific components of the report.

The auditor reviewed ARs for the audit period to the end of 2004. Those ARs were prepared in accordance with the requirements of the 1996 FMPM. The 2005 ARs were to be prepared in accordance with the 2004 FMPM reporting requirements. The fall report was not available during the audit (required mid-November).

The 2000 Independent Audit Reports recommended that the Company and the OMNR "complete Annual Reports in accordance with the Planning Manual". The auditor found that problems related to completeness and accuracy of reporting persisted during the Plan term. For example, the required OMNR review of the ARs documented problems such as missing maps, incorrect titles, the need for more explanatory text to clarify key issues, table number correlation with text and missing stand listings. In all cases, Abitibi corrected the identified shortcomings.

Over the plan term ARs generally improved in quality. Levels of achievement of FMP planning targets were provided with explanations and a rationale for shortfalls. The ARs included explanations for deviations between the level of activity scheduled in the AWS and the actual level of activity. The ARs included a detailed report of communication efforts, education, training initiatives, and initiatives with the native communities.

The annual reporting process was complicated by having two OMNR districts involved in the preparation of report tables and the review of the Annual Reports. It was noted that the Company binder of Annual Reports did not include Table12. OMNR correspondence indicates that the Table had been provided to the Company. Additionally, OMNR copies of ARs contained some different data than was contained in the Company copies. For example, for 2000-01 page 10 of the spring report was different, as were pages 22-24 of the 2001-02 spring report and the compliance reporting in the 2003-04 report. The 2004 FMPM had new requirements for the preparation of ARs effective in 2005. Electronic versions of final approved documents are to be stored in the OMNR's Forest Information Portal. This should resolve issues with respect to different versions of documents in circulation and address the issue of document completeness. However, the audit did determine a problem with data correlation amongst earlier ARs and problems related to the accuracy of information. The auditor therefore provides the following recommendation.

Recommendation # 6:

Local OMNR and the Abitibi must ensure that Annual Reports meet FMPM requirements and that reports on file at OMNR and Company offices are complete, correct, and similar.

3.6.3. REPORT OF PAST FOREST OPERATIONS

The Report of Past Forest Operations (RPFO) serves two equally important purposes. One purpose is to fulfill a responsibility to account to the public on forest management operations. The other purpose is to use the information to make appropriate adjustments in future planning.

The IFF SFL encompasses the original Iroquois Falls Forest FMA and the Iroquois Falls South Company Management Unit. Separate RPFOs that provided a separate summary and analysis of the actual and planned forest operations were prepared for each unit. For the Iroquois Falls Forest (north) RPFO tables reported data for the April 1, 1995 to March 31, 2000 term of the 1995-2000 Timber Management Plan (TMP). Data was based on five-year information retrieved from AR report tables and company databases. Data based on AR tables and Abitibi records was reported for the Iroquois Falls South Company Management Unit for a four-year term (April 1, 1996 to March 31, 2000 of the 1996-2001 TMP). The RPFOs included an evaluation of operations, an assessment of forest sustainability, the achievement of management objectives, and an analysis of assumptions. The RPFO assessments of the indicators of sustainability indicated that operations were sustainable and that management objectives were being achieved. The auditor concurs with these findings.

The 2000 Independent Audit for the Iroquois Falls Forest recommended that Abitibi "ensure that all data in the RPFO tables is reported accurately". The auditor determined that information documented in the RPFOs correlated with data in the ARs. However, the auditor was of the opinion that the analysis of data and the discussion of emerging trends were limited. For example, RPFO-6 provided the required comparison of planned versus actual harvest volumes by mill product and species, but did not offer a discussion on emerging trends or the ability to meet wood supply targets. While total depletion results were summarized by forest unit, the RPFOs did not provide a succinct explanation as to how successfully the Selected Management Alternative was implemented. Additionally, while the RPFO Summary and Highlights met FMPM requirements and data and information reported were consistent with reporting in the RPFO, it contained only limited discussion. The auditor provides a recommendation to address the need for more detailed discussion and analysis in future reports (e.g. 2004 FMPM Year Ten Management Unit Annual Reports).

Recommendation # 7:

Abitibi should ensure that future reports (e.g. Year Ten Management Unit Annual Reports) provide analysis, explanation and discussion of emerging trends to support forest management decision-making and the assessment of the effectiveness of past forest management practices.

3.7. ACHIEVEMENT OF MANAGEMENT OBJECTIVES AND FOREST SUSTAINABILITY

3.7.1. ACHIEVEMENT OF MANAGEMENT OBJECTIVES

The IFAPP requires the auditor to examine and comment on the achievement of management objectives. Table 5(a) lists objectives from the 1995-2000 TMP for the Iroquois Falls Forest and Table 5(b) lists objectives from the 1996-2000 TMP for the Iroquois Falls South Company Management Unit. The tables provide the RPFO Author assessment of the achievement of the plan objectives.

TABLE 5 (A). SUMMARY OF THE STATUS OF THE 1995-2000 IROQUOIS FALLS FOREST TMP MANAGEMENT OBJECTIVES

Objective	RPFO Author Comments and Notes
Harvest Objectives	
- 750,000 m^3 of spruce and balsam conifer fiber for the Iroquois Falls mill (435,000 m^3 from the Forest and 315,000 m^{3}delivery, exchange and/or purchase). - Meet the annual Norbord and Grant Forest products requirements of 153,000 m^3 - Maximize the harvest within 10% of MAD.	- Achieved approximately 73% of target (Achieved average annual 109,346m^3. Exchanged 207,669 m^3 conifer sawlogs with Tembec for an equivalent volume of chips). - Achieved approximately 72% of target (Norbord and Grant received 19,910 m^3 and 90,786 m^3 of product respectively). - Objective achieved. MAD fully achieved for conifer, slightly under-achieved for hardwoods.
Renewal Objective	
- Harvest areas regenerated at 30% artificial, 70% natural. - Annual renewal targets of 5,800 hectares.	- Achieved 32% artificial and 68% natural. - Annual renewal target 5,920 hectares or 102%.
Environmental Quality Objective	
- Use sound environmental practices. - Train woodlands employees in environmental awareness. - Institute a Code of Forestry Practices. - Train staff with respect to the Code and ensure it is also implemented within their own operations. - Minimize and control site disturbance.	- In 1995, woodlands staff received written and video versions of Codes of Practices and Operating manuals. - In 1996, Abitibi staff and third party operators received training. - ISO 14001 certification received in 2000. - Careful logging training for staff completed in 1996-1997. - Implementation of HARP and CLAGG harvesting systems for lowland black spruce.
Environmental Monitoring Objective	
- Abitibi supervisors will assume monitoring responsibilities. - Abitibi will audit third party operators, minimum once per season. - MNR staff will carry out compliance regularly and consistently in communication with company staff.	- Compliance plan approved in 1997. - Training session held with staff and 3rd party operators. - Abitibi audit teams established in 1995. - Internal company audit completed in 1996.

Integrated Resource Management Objectives	
- Effectively address other user issues and where possible mitigate concerns. - Participate through the District Remote Tourism Strategy in the development of a Remote Tourism Strategy.	- All outstanding issues and concerns were addresses in the approved 1995 TMP. - Norbord operations in two disputed areas were deferred until a tourism strategy was developed. - Approval condition instituted in the 1995 TMP to resolve disputed areas before harvest approval. - Cochrane District Remote Tourism Strategy approved in 1997.
Model Forest Projects Objectives	
- To use management principles, where and when practical, developed from Lake Abitibi Model Forest (LAMF) projects.	- Utilized results from a project "New Harvesting Methods which Promote Natural Regeneration in Black Spruce Peatland Sites".
Biodiversity Objectives	
- To introduce and evaluate the effectiveness of biodiversity strategies and introduce modifications where and when feasible. - -To conduct three prescribed burns.	- Appendix D of the TMP contained a biodiversity strategy. - Harvest blocks were developed to mimic historical natural disturbance patterns on the landscape. - No prescribed burns were carried out.

Table 5 (b). Summary of the Status of the 1996-2000 Iroquois Falls Forest South Company Management Unit TMP Management Objectives.

Objective	**RPFO Author Comments and Notes**
Harvest Objective	
- Annually produce 88,600 m^3 of conifer for Norbord. - Annually produce 44,951 m^3 of aspen for Grant. - Annually produce 6000m^3 of aspen for Norbord. - Annually produce 2,200m^3 of white birch for veneer and firewood.	- Tembec (formerly Norbord) received 94% of target. - Grant received 83% of target. - Norbord received 29% of aspen indicating the harvest target may be too high. - White birch utilization was at 34% indicating better utilization of under-utilized species.
Integrated Resource Management Objective	
- Optimize resource benefits while reducing conflicts.	- No reporting of achievement.
Environmental Quality Objective	
- Use sound environmental practices to reduce negative impacts.	- Utilized fish and wildlife guidelines, compliance monitoring identification of sensitive sites and careful logging.
Renewal and Maintenance Objective	
- Over the 5-year term artificially regenerate 604 hectares. - Plant 562 hectares. - Seed 32 hectares. - Tend 414 hectares. - Regenerate 1,523 hectares annually. - Thin 100 hectares of over stocked stands.	- Achieved 94% of planting target. - No seeding was carried out. - Tended 963 hectares or 233% of target. - Thinning occurred on 33 hectares or 33% of target achieved.
Ecosystem Management Objective	
- Initiate timber practices that emulate natural forest successional stages. - Conserve biological diversity. - Provide wildlife habitat.	- The spruce and poplar working groups did not meet old growth targets. - Harvest prescriptions were developed that maintained snags in stands. - Modified harvest prescriptions were developed and implemented. - Timing restrictions were implemented in some areas to protect values.

The auditor review of the objectives and comments of the RPFO Author concludes that plan objectives were substantially achieved.

Table 6 provides a summary of the status of the 2000-2005 Iroquois Falls Forest FMP objectives and provides auditor comments and recommendations and suggestions.

TABLE 6. SUMMARY OF THE STATUS OF THE 2000-2005 FMP OBJECTIVES.

Objectives	Achieved Yes/No Partial	Auditor Comments and Notes
Forest Diversity Objectives		
a) To maintain the current natural range of biological diversity of the Iroquois Falls Forest. b) To provide ecological landscape diversity and forest diversity indices based on the current forest condition which will be used as a benchmark for future forest management plans.	Y	Review of biodiversity elements of the FMP indicated that forest diversity, wildlife habitat, and natural disturbance patterns are being adequately addressed.
a) The size frequency of selected harvest blocks within the IFF will reflect the size frequency of naturally occurring fires in the immediate area of the IFF. b) The percent of total area disturbed by harvest patches of certain size classes will reflect the percent of total area naturally disturbed by wildfires of common size classes.	Y	Implementation of guidelines on the forest is moving it towards the emulation of natural occurring fires.
To ensure that individual wildlife habitat units presently found on the IFF will be maintained in terms of relative abundance and functionality by maintaining the presence of wildlife species habitats over time.	Y	The Selected Management Alternative maintains wildlife habitat within the bounds of natural variation.
a) To recognize natural disturbances (fire and blowdown) as an integral component of the ecological processes occurring within the boreal forest; and b) To utilize natural disturbance, when feasible, to help maintain the sustainability of the forest.	Y	The value of natural disturbances has been recognized in the plan and its implementation. The use of the HARP system on black spruce peatland sites is consistent with this objective.
a) To maintain the current proportion of forest tree species and forest units on the Iroquois Falls Forest. b) To maintain the stand species composition to that which would occur under natural post disturbance conditions.	Y	Appropriate proportion of tree species, forest units and stand species composition have been maintained on the forest. There was some concern by one operator over conversions from poplar to conifer on the Forest.

To have an age class structure which maintains a proportion of the forest units or forest unit groups in mature and overmature conditions.	Y	Observed forest operations were consistent with the maintenance of overmature forest condition.
To protect vulnerable, threatened and endangered wildlife, flora and unique ecosystems currently found on the IFF.	Y	AOCs were implemented as appropriate. Caribou studies are on going. Values were identified and protected. Wildlife habitat modeling took place as part of the planning process and guidelines were followed.
a) To ensure the preservation of the local tree gene pool; and b) To regenerate sites with stock that is genetically adapted for that site.	Y	Seed Orchards have been established and maintained and a seed collection program implemented.
Social and Economic Objective		
a) To establish and promote a continuous and predictable sustainable supply of wood to the user mills dependent on the IFF according to the short and long term wood supply targets and according to the forest sustainability requirements. b) To promote the optimal utilization of available wood products through best end use in order to contribute the greatest value-added to the local economy for each cubic metre of timber harvested. c) To encourage utilization of secondary forest resources (e.g. low quality wood and marginally commercial species) in order to maximize the yield of forest products from each hectare of forested land harvested.	Y	Field observations indicated that the forest is adequately regenerating. On renewal sites observed during the field audit, areas scheduled for natural regeneration contained adequate to high stocking levels. Areas which received artificial regeneration treatments were well-stocked with few exceptions. In general, the annualized area regenerated approximated the annualized harvest area over the past three planning terms. Access is being developed in the Northern portion of the IFF. Grant Forest Products is now utilizing birch. Harvests have not exceeded plan levels. With one exception wood supply commitments have been met.

Other Social and Economic Objective		
a) To co-ordinate forest management such that benefits to all users can be optimized while conflicts resulting from forest operations are minimized consistent with the Cochrane District and Kirkland Lake District Land Use Guidelines. b) To provide for other forest users so that they may continue to derive specific benefits from the forest. c) To protect any other identified forest value or value located in, but not an intrinsic part of the forest. d) To integrate the Cochrane District Remote Tourism (Wilderness) Strategy into the IFF Forest Management Plan (Supplementary Documentation, Section 14).	Y	The Cochrane District Remote Tourism Strategy was implemented. Access agreements were made in sensitive portions of the IFF with tourism operators. Agreements were reached with First Nations. Values were identified and protected.
Forest Cover Objectives		
a) To ensure that the harvest disturbance patches are spatially separated from one another in a manner similar to naturally occurring disturbance patches in the forest; and b) To maintain suitable forest cover between harvest or disturbance patches to provide the forest cover conditions necessary for the marten and moose featured species on the IFF.	Y	Operations were consistent with maintaining suitable forest cover.
To emulate, through allocation configurations, the shape and orientation of natural fires as much as possible on the IFF.	Y	Plan prescriptions were implemented. Harvests followed topography.
To emulate the amount of edge in harvest allocations to that created in wildfire situations.	Y	CLAAG and HARP produce an abundant supply of edge.
To maintain the structural elements including standing dead or declining trees and fallen coarse woody debris within a disturbance or harvest patch that represent the typical tree species from the original stand by applying the marten guidelines.	Y	Snag trees were retained. Local conditions required a 12 m height minimum rather than 15 m. CLAAG and HARP retain site characteristics in residual strips.

To ensure that all aspects of marten habitat requirements are maintained or enhanced on the IFF through the implementation of the Forest Management Guidelines for the Provision of Marten Habitat.	Y	Guidelines were fully implemented. CLAAG and HARP retained residual stand components. Marten core areas were identified in the planning process.
To maintain or enhance moose habitat on the IFF through the creation of disturbance patches while providing strategic protection to critical moose habitat on the IFF. Protection will be provided to known specific values such as aquatic feeding areas, mineral licks and calving sites, late winter concentration areas. These values will be considered for protection according to the Timber Management Guidelines for the Protection of Moose Habitat (OMNR, 1988). Also to develop targets based on the bounds of natural variation for moose winter and summer habitat in order to maintain a stable and healthy moose population.	Y	Moose guidelines were fully implemented. AOC for specific habitats were implemented. SGRs provided for the perpetuation of moose habitat.
To ensure that disturbance patches will contain residual (leave) patches within them that mimic the unburned patches within a fire in terms of size, number, forest composition, orientation, and connectivity as much as possible.	Y	CLAAG and HARP and the existence of, by-pass and other inoperable areas resulted in the retention of large residual patches. The FMP included a target of ensuring that a 20-year-old forest will separate disturbance patches. The target was constrained in the short term by past harvesting practices, particularly on the IFS, which resulted in fragmentation of the forest. AOCs and riparian reserves also provide required habitat and connectivity.
To maintain water quality and fish habitat within disturbance patches and associated areas of forest operations.	Y	AOC related to watercourses were fully implemented. Water and soil were protected during harvest operations.

Silviculture Objective		
a) To plan and implement a silviculture program which will support or increase the level of sustainable harvest while maximizing the efficient use of finite financial resources and lead the forest to the desired future forest condition. b) To implement a silviculture program which will contribute to other plan objectives as much as possible (e.g. provision of forest cover for values dependent on forest cover, and maintenance of forest unit areas) and achieve the desired future forest condition. c) To plan and implement the most effective and efficient silviculture program on areas of natural disturbances within the economic framework of available financial resources.	Y	Renewal rates were maintained at levels required for forest regeneration. Natural regeneration efforts were successful (e.g. CLAAG/HARP). Artificial regeneration levels were reduced from planned largely due to implementation of careful logging. A backlog exists in B&S and FTG surveys. Average annualized regeneration approximates average annualized harvest depletions. Silvicultural was appropriate to maintain present level of forest composition. Seed orchards were maintained and a seed collection program was implemented. Nutrient loaded seedlings were planted and comparative performance of the stock was being monitored.
Best Management Practices Objective		
a) To manage for compliance with all environmental, health and safety laws and regulations in all operating jurisdictions. b) To implement an environmental management program that is consistent with best practices and strives to go beyond compliance with laws and regulations. c) To minimize the negative impacts of all operating activities on the environment. d) To actively encourage waste reduction, recovery at source and recycling. e) To dialogue with stakeholders, being sensitive and responsive to concerns of those impacted by forest operations. f) To place a top priority on the health and physical well-being of employees by providing a safe working environment and promoting the best work practices. g) To measure our progress and periodically assess performance through control and audit processes to ensure continual improvement of SFM.	Y	Company has an ISO 14001 registration and EMS. Compliance monitoring was implemented on the IFF. Company, OMNR and First Nations negotiated agreements to enhance communications and management on the forest.

The auditor review of planned vs. actual forest management activities in the field and other audit activities (e.g. report reviews and interviews) concludes that the FMP objectives were met.

3.7.2. REVIEW OF RPFO ASSESSMENT OF SUSTAINABILITY

The Report of Past Forest Operations is based on Management Plans which were written and approved under the Timber Management Planning Manual. Many of the requirements for measures of sustainability were, therefore, not in place at the time of the plan approvals. Additionally, the RPFOs prepared for the 1995-2000 and 1996-2000 terms comprised the first documentation of the measurable indictors of forest sustainability. The 1996 FMPM states that the assessment of sustainability cannot be based on the analysis of one or two measurable indicators of forest sustainability criteria over a single plan term. Measurable data on habitat for selected wildlife species, landscape processes, and socio-economic data were not available. It was, however, the opinion of the RPFO Author that the current forest operations on the IFF were sustainable.

A slight decrease (1%) in the managed Crown forest available for timber production occurred during the RPFO terms on the IFN due to the accumulation of reserves and the creation of non-forest areas. The decrease in area, although viewed as normal and expected, was also viewed as a negative in terms of the sustainability for the IFF. In the IFS, the estimated managed Crown Forest available for timber production increased by 13% (15,050 ha). The large increase in available area was viewed as a positive factor for forest sustainability and was attributed to a land base error made in the preparation of the 1996 TMP.

In IFN, the total productive Crown forest area decreased by 5% from 747,023 ha in 1995 to 711,195 ha in 2000. A portion of the decline was attributed to OLL removals; however, the remaining difference could not be explained based on information in the 1995 TMP. In IFS, the total productive Crown forest area increased by 8%. The differences in land could not be rationalized based on the information in the 1995 TMP.

No conclusion on forest sustainability could be inferred from landscape pattern indices as landscape pattern values were not a requirement of the Timber Management Planning Manual (TMPM) for the preparation of the 1995 and 1996 TMPs. The 2000 analysis of landscape processes indicator values indicated that approximately 7% of the second order stream watersheds on IFN had been harvested over a 10-year period. The proportion of watershed disturbance was slightly higher on the IFS sub-unit. It was the opinion of the RPFO Author that overall the low level of watershed disturbance indicated that water yields were not adversely impacted by harvesting operations. Additionally, the analysis of the ratio of area of riparian reserves to length of shoreline adjacent to timber harvest blocks indicated that 80 to 100% of shoreline areas were protected by riparian reserves for the RPFO terms.

Prior to 1988, harvesting on the IFF was concentrated in larger blocks mainly according to access. Harvesting of over-mature wood resulted in progressively larger disturbance patches. During the RPFO terms, harvests complied with the moose habitat guidelines and resulted in small well-distributed cut patches and sizes. The cutover analysis in the 2000 FMP included an assessment of distributions of cuts by size class for the 1980 - 2000 term and the 1985-2005 term. The analysis indicated that the IFF is progressing towards the desired natural disturbance pattern.

No conclusion could be drawn from the analysis of the summary report of wildlife habitat as there were no selected wildlife species identified in the 1995 or 1996 TMPs since this was not a TMPM requirement.

The analysis of the available harvest area actually utilized during the RPFO terms indicated that approximately 60% of the available harvest area was harvested. In general, higher utilization levels were attained for conifer forest units. Birch, poplar and other conifer forest units were largely underutilized. The RPFO Author indicated that in order to provide maximum socio-economic benefits, harvest depletion areas needed to more closely correlate with the available harvest area.

During the RPFO term there was not a requirement for separate native consultations, the preparation of a native background information report or reports on protection of identified native values. Abitibi encouraged First Nation involvement and employment in forest management through tree planting contracts, harvesting opportunities and other silvicultural projects.

During the RPFO terms, approximately 80 - 100% of the forecasted silvicultural budget requirement was available for the renewal of harvested areas.

There was not a requirement for socio-economic analysis during the TMP planning terms.

3.7.3. REVIEW OF THE COMPARISON AND TREND ANALYSIS OF PLANNED VS. ACTUAL FOREST OPERATIONS REPORT OPERATIONS REPORT

The purpose of the Comparison and Trend Analysis of Planned vs. Actual Forest Operations Report is to provide an interpretation of the current state of the Iroquois Falls Forest relative to its historical state. Reporting of planned vs. actual harvest volumes, planned vs. actual depletion areas, planned vs. actual renewal and maintenance is based on the average results for the period 2000-2004 as reporting for 2005 had yet to be completed.

Significant trends in the report are summarized as follows:

- There was a slight decline in the Crown managed total land base, total productive forest area, and total forest land largely due to the area designated for Ontario's Living Legacy.
- There was a significant decline in the area classified as barren and scattered, NSR (not sufficiently regenerating) and depleted; however, a significant area remained classified as Barren and Scattered / NSR / Depleted.
- Shortfalls in planned harvest levels of conifer and hardwood persisted as mill requirements had not reached planned allowable harvest levels over all three reporting periods.
- Shortfalls in actual renewal levels (artificial and natural) persisted over the planning terms but were reflective of lower than planned harvest levels. In general, the annualized area regenerated approximated the annualized harvest area for the three planning terms.
- There was a significant shift away from artificial regeneration as lower cost natural regeneration alternatives (e.g. CLAAG) were implemented. The transition to careful logging practices resulted in a reduced requirement for site preparation on the Forest.
- Aerial tending targets were significantly overachieved in the second plan term as an expanded herbicide program was implemented to treat backlog areas. In the current term there was an underachievement in the spray program attributable to poor weather for two consecutive seasons.

The total area of Crown managed forest land declined slightly over the planning periods (terms) documented (1985-1990, 1990-1995 and 1995-2000). Total forest land area declined by 3.1% between 1990 and 2000. Area of production forest declined by 2.7% and area designated as Free-to-Grow was reduced by 0.9%. These area reductions were largely attributed to areas designated to Ontario's Living Legacy (OLL).

A significant trend was the decline in the area classified as Barren and Scattered/NSR/Depleted over the three plan terms. In the 1990 FMP term, 152,676 ha were classified as Barren and Scattered/NSR/Depleted, by 2000 this number had decreased by approximately 11% (16,735 ha to 135,941 ha). The relatively large area remaining within the classification was reflective of old depleted areas which had yet to be assessed for free-to-grow status. A continuing objective of the management planning process for the Forest has been to determine the status of older B&S and NSR sites. It was anticipated that the area would be adjusted downwards with the completion of a new forest resource inventory in 2007. The FRI will assess B&S areas older than 15-20 years. A planned annual free-to-grow assessment program will survey an area equivalent to the average annual depletion and also assess a portion of the older B&S areas. The corporate GIS system currently accounts for all lands within the B&S category and all areas scheduled for future assessments.

Planned harvest levels for 2000-2005 increased over the previous terms (e.g. 1990-1995 planned harvest of 549,450 m^3, 1995-2000 planned harvest of 595,779 m^3, 2000-2005 planned harvest of 611,061 m^3). Planned harvests of spruce and jack pine increased by 14% and 63% respectively between the 1990 term and the current planning term. Over the same period the planned harvest of poplar declined by 11%. This increase in planned harvest levels was attributed to assumptions that markets would be strong for newsprint and lumber.

The gap between planned harvest levels and actual harvest levels varied over the plan terms and over sub-units. The area depleted in Iroquois Falls North ranged from 104% of planned in the 1990 term to 78% in the 2000 FMP. Abitibi indicated that during the 1990 - 1995 term, the harvest of conifer was 97% of planned levels. The harvest in poplar forest units was lower (78%) due to sporadic markets for poplar waferboard. In the 1995 - 2000 term, the harvest was approximately 79% of planned for all forest units. Harvest levels were negatively impacted by a prolonged labour dispute at Abitibi-Consolidated, and inclement weather during the plan term. Poplar harvest levels only achieved 67% of planned targets due to poor market conditions for OSB and the implementation of the Cochrane District Remote Tourism Strategy in the Two Peak Area.

The current plan forecast maximum allocations for all forest units. Actual harvest volumes achieved 78% and 84% respectively for softwoods and hardwoods. First Nation logging blockades and a mill closure for upgrades contributed to the target shortfall. On the Iroquois Falls South sub-unit actual depletions ranged from 92% of planned targets in the first term to 87% of planned targets for the current FMP. In the first plan term, the actual area of conifer harvest was 104% of planned. The hardwood harvest area was 67% of the planned depletion area, due mainly due to poor markets for poplar strandboard. During the second term harvests fell short of planned areas mainly due to an undercut in the poplar forest unit over the term. Poplar forest units were undercut because Tembec sourced wood from other commitments and a fire destroyed the Malette Inc. plant in Timmins. There was also a limited supply of veneer quality poplar in harvest stands. For the current plan term actual harvest levels were 78% of planned for conifer forest units and 84% for hardwood. This undercut in hardwoods was reflective of market conditions.

A 12% increase in the planned annual harvest volumes for spruce forest units occurred during the three terms (1990-1995 343,444 m^3, 2000-2005 390,108 m^3). Although the total actual annual volume for spruce units harvested was below planned levels for all three terms, the actual volumes harvested in conifer forest units were higher than planned indicating higher than anticipated yields.

Over the three planning terms the total area treated for regeneration (artificial and natural) approximated the total area depleted. During the period of the three terms the total annualized area harvested was 18,508 ha and the total area declared successfully regenerated was 17,856 ha (96%). In general there has been a significant shift away from artificial regeneration as lower cost natural regeneration alternatives (e.g. CLAAG) have been implemented. Shortfalls in planned renewal reflect lower than planned harvest levels on the Forest.

The use of direct seeding as a renewal method declined over the three terms. In the 2000 term no planning target was established as company surveys indicated that direct seeding with black spruce did not appreciably increase renewal success on naturally regenerating sites.

A significant reduction in the level of site preparation on spruce sites occurred over the three terms. The reduction in mechanical site preparation was attributed to a reduced need to site prepare areas mechanically harvested (i.e. machine travel corridors are sufficiently disturbed to enable planting) and a strategy to reduce ground disturbance on upland clay sites, thereby avoiding competition problems from grass and raspberries which proliferate on disturbed sites.

Aerial tending targets were significantly overachieved during the second term as an expanded herbicide program was implemented to treat large areas of backlog (Planned 408 ha, treated 963 ha). The 2000 FMP proposed an annualized treatment area of 674 ha but to date treatment levels are at 43% of the planned target due to poor weather conditions in 2000 and 2001. Abitibi-Consolidated indicated that the areas scheduled were in need of treatment and the target will be met in 2006.

3.7.4. ACHIEVEMENT OF FOREST SUSTAINABILITY

Assessment of forest sustainability is the most important component of the Independent Forest Audit.

Recognition of the complexity and dynamic nature of forest ecosystems has required that forest management focus on the protection and management of entire ecosystems, as well as timber yields. Sustainable forest management (SFM) involves ecosystem concepts including the place of people in those ecosystems. *The Crown Forest Sustainability Act*, 1994, defines sustainability as, "Long term Crown forest health", and forest health as "... the condition of a forest ecosystem that sustains the ecosystem's complexity while providing for the needs of the people of Ontario". In practice, the continued existence and healthy functioning of all forest ecosystems and values is the common foundation for initiatives that measure and monitor SFM.

The *Crown Forest Sustainability Act* requires a determination of the forest sustainability of Crown Forests, based on two main principles:

- Large, healthy, diverse, and productive Crown Forests and their associated ecological processes and biological diversity should be conserved.
- The long-term health and vigor of Crown Forests should be provided for by using forest practices that, within the limits of silvicultural requirements, emulate natural disturbances and landscape patterns while minimizing adverse effects on plant life, animal life, water, soil, air, and social and economic values, including recreational values and heritage values.

At the management unit level, five criteria (Biodiversity, Forest Condition and Ecosystem Productivity, Soil and Water Quality, Multiple Benefits to Society, and Accepting Society's Responsibility for Sustainable Development) are commonly used in the determination of forest sustainability.

A series of measurable indicators has been developed for each of these criteria. These indicators are critical for the assessment of sustainability for individual Forest Management Plan alternatives and for the assessment of trends in forest sustainability over successive Management Plan periods. Assessment and reporting of these criteria and indicators of sustainability is a critical part of the IFA. Table 7 lists auditor comments relative to the Iroquois Falls Forest on the five criteria used in the determination of forest sustainability. The auditor provides additional details with respect to the criteria beneath the Table.

TABLE 7. ASSESSMENT OF THE FIVE CRITERIA OF SUSTAINABLE FOREST MANAGEMENT

Forest Sustainability Criteria	Met (Yes/No/Partial)	Comments
Biodiversity	Y	Landscape pattern and forest diversity indices were being used as indicators of forest sustainability. Although the Company and OMNR do not currently have the required data to fully assess forest sustainability of the Selected Management Alternative, habitat supply information for selected wildlife species, forest age class distributions and changes to forest species composition were being collected to produce an estimate of sustainability over time. Forest and landscape diversity and preferred habitat for wildlife species including habitat for marten and moose were expected to be maintained within the bounds of natural variation. The use of HARP and CLAAG harvesting techniques is supported by research and approved by OMNR. The shift towards increased natural regeneration has not resulted in significant changes in forest composition on the IFF (i.e. shift from conifer-dominated stands to mixed wood stands). The Selected Management Alternative ranked first overall in the combined ranking of age class distributions, changes to species composition, forest diversity and habitat supply.
Forest Condition and Ecosystem Productivity	Y	Past and proposed land use on the Forest and the preferred management strategy in the Plan is consistent with the maintenance of ecosystem productivity. While some issues were identified with respect to slash management, bypass and the area of NSR/Depleted land these impacts were not large enough to significantly impact ecosystem productivity at the management unit level.

Soil and Water Conservation	Y	Forest harvesting (e.g. CLAAG/HARP) and management practices in the field such as the construction of roads and water crossings and the use of AOCs are consistent with the maintenance of water quality and soil conservation. While some issues were observed with respect to erosion on abandoned roads the impact was not widespread or large.
Multiple Benefits to Society	Y	Differences in socio-economic returns amongst the management alternatives were not large. The Selected Management Alternative provided stable social and economic benefits. The Plan provides for a long-term sustainable supply of timber though not at current levels. Protection to the Tourism industry and continued access for recreational use on the Forest has been provided. First Nations are licenced to harvest and involved in the forest management planning and issue resolution through negotiated Agreements with the OMNR and Company.
Accepting Society's Responsibility for Sustainable Development	Y	Managers of the Forest consulted widely concerning proposed forest management activities and the LCC was involved. The Company has substantially adhered to FMPM requirements and has obtained ISO 14001 registration. It also has an EMS system and associated environmental policies.

Biodiversity

Indices being used to describe landscape patterns and forest diversity include: edge, interior, fragmentation, isolation and spatial patterns and forest diversity. The index values were calculated for the 2000 - 2005 Plan and are projected into the future assessment for reference and analysis. The Selected Management Alternative was considered sustainable because:

- forest diversity and landscape diversity was expected to be within the spatial and non-spatial bounds of natural variation.

- Preferred habitat for selected wildlife species was maintained through time and was expected to be within the bounds of natural variation in most cases.
- Marten, moose winter and moose summer habitat was stable through time and wildlife habitat objectives were met.
- The selected harvest area patterns showed movement towards the natural disturbance patterns.
- The Selected Management Alternative maintained a proportion of the forest in older age classes.
- The Selected Management Alternative was consistent with the desired future forest condition.
- Core marten habitat met plan objectives.

Habitat for selected wildlife species is an indicator of forest sustainability which was applied to help describe the forest condition. The FMP compared current available habitat with the desired future forest condition (year 2020) for selected species which included locally and provincially featured species (i.e. moose, marten, and caribou). The plan text discussed the significance of habitat change and noted that although many of the species showed habitat loss, all remained within acceptable levels and some will increase over time.

HARP and CLAAG harvesting techniques, applied extensively on the IFF, have been approved for use by OMNR. The auditor found no evidence to suggest that these techniques were detrimental to long term forest sustainability. This conclusion is supported by local research, and auditor observations of successful natural regeneration that approximated the original stand compositions in areas where harvesting had occurred

CLAAG and HARP retain stand vertical structure and more in-stand characteristics (i.e. ground cover) than traditional clearcutting systems. The technique retains in-stand biodiversity as shrub and ground vegetation is not disturbed in the residual strips and older age remnants and habitat elements are retained.

The Company adoption of a strategy to conduct less site preparation is also conducive to the retention of biodiversity as some original stand components in the shrub and ground vegetation layers are not disturbed. The acceptance of a more mixed component of regeneration including balsam fir and aspen on more productive sites results in an increase in stand biodiversity by preserving or increasing species richness on affected sites.

Abitibi is also attempting to reduce its application of herbicides on the forest. The following two alternatives may enhance in-stand biodiversity over time; 1) use of varying application rates for the control of aspen and 2) the application of aerial spray in a striped pattern with the objective being to release corridors of planted stock and at the same time to protect the hardwood component in the non-sprayed strips.

The areas retained in planned and unplanned by-pass and reserves also enhance biodiversity on the landscape.

The improved application of the marten guidelines over the planned period in terms of increased diameters and numbers of snag trees will enhance biodiversity over time. For example, poplar trees retained will seed onto cutovers and may be expected to augment the hardwood component on sites.

It is the auditor's opinion that biodiversity criteria were substantially met during the audit period.

Forest Condition and Ecosystem Productivity

Past and proposed land use on the Forest and the Selected Management Alternative in the Plan were consistent with the maintenance of ecosystem productivity. There was a slight decline in the Crown managed total land base, total productive forest area, and total forest land largely due to the area designations for Ontario's Living Legacy. This decline was not anticipated to be detrimental to forest sustainability.

In general, the annualized area regenerated approximated the annualized harvest area for the RPFO terms. The adoption of the NDEP guidelines for the determination of harvest block sizes serves to conserve biodiversity and ecosystem and forest productivity. The slash management strategy if effectively implemented will reduce the loss of productive forest land in harvested areas.

It is the auditor's opinion that the forest condition and ecosystem productivity criteria were substantially met during the audit period.

Soil and Water Conservation

Net primary productivity (NPP) and water yield are expressions of landscape processes, which are measurable indicators of forest sustainability. Base values for net primary productivity and water yield were calculated for the Forest. These values will be compared to future values as a gauge of forest sustainability.

CLAAG and HARP appear generally successful in maintaining on-site structure and forest composition, preventing ground disturbance, and protecting groundcover. The scheduling of harvest on wet sites for winter logging and the use of appropriate equipment on sensitive sites serves to protect soils and sites.

It is the auditor's opinion that forest management activities are not negatively affecting soil water quality.

Multiple Benefits to Society

The Selected Management Alternative maintained a flow of benefits to society from the Iroquois Falls Forest. In summary:

- It had the highest ranking of all management alternatives in meeting planning objectives.
- It provided for a stable long-term wood supply and came as close as possible to meeting the MROL volume targets.
- It provided stable social and economic benefits including stable revenues to the Crown, stable jobs, and maintained access and protection for fish and wildlife values.
- It supported management activities consistent with supporting the desired future forest condition for the IFF forest.

First Nations are benefiting from forest management activities through their increased involvement in the forest management planning process (i.e. the identification and protection of native values) and deriving economic benefits from the forest as Overlapping Licencees.

It is the auditor's opinion that forest management activities substantially provided the planned multiple benefits to society.

Accepting Society's Responsibility for Sustainable Development.

Managers of the Forest consulted widely concerning proposed forest management activities and the LCC was involved.

The Company has substantially adhered to FMPM requirements and has obtained ISO 14001 registration. It also has an EMS system and associated environmental policies.

It is the auditor's opinion that the Company and OMNR have substantially met requirements for sustainable development on the public forest.

3.8. CONTRACTUAL OBLIGATIONS

Table 8 summarizes the level of achievement of SFL contractual obligations. The auditor concludes that the Company was substantially in compliance with the terms and conditions of the SFL.

TABLE 8. SUMMARY OF CONTRACTUAL OBLIGATIONS AND AUDITOR COMMENTS ON THE LEVEL OF ATTAINMENT OF THE CONTRACTED OBLIGATIONS FOR SFL # 542531.

Contractual Obligation	Level of Attainment
1. Complied with the terms and conditions of the SFL.	Abitibi was substantially in compliance with the terms and conditions of the SFL. The commitment to Grant Forest Products identifies the Iroquois Falls Forest as a part of a supply area. Numerous drafts of a Memorandum of Agreement (MOA) have been prepared by Abitibi and Grant however consensus has not been reached and negotiations are continuing. From Abitibi's perspective, it maintains that the MOA condition has been met.
2. Payment of Forestry Futures and Ontario Crown Charges.	Payments were made as required.
3. Wood Supply Commitments.	The Company complied with wood supply commitments as per the requirements in Appendix "F" of the licence agreement. Representatives from Norbord Industries Inc. and Grant Forest Products Inc. indicated they had received the required wood supply as per the Appendix agreement.
4. Allowable harvest levels meet contractual obligations.	Level of harvest was below planned levels but contractual obligations were met. The harvest depletion shortfall was attributed to poor market conditions for poplar, native blockades, a fire at a mill in Timmins, labour disruptions and poor weather. Abitibi had a wood supply exchange agreement with Tembec Forest Products. Over the audit period the Wahgoshig and Taykwa Tagamou First Nations had overlapping agreement and license areas on the IFF. In 2004-2005, 123,000 m^3 were licenced to Aboriginal communities. The allowable harvest levels were sufficient to satisfy conditions described in the SFL.

5. Prepare FMP and AWS in accordance with FMPM.	FMP and AWS were generally prepared in accordance with the FMPM requirements.
6. Conduct inventories and surveys as required in FIM.	An FRI inventory was initiated during 2003 based on 2002 aerial photography. The FIM indicates the inventory is required to be completed one year after the end of the FMP term (i.e. April 2006). Required values information was compiled. A backlog in assessment of FTG surveys exists. Compliance monitoring was undertaken and results reported.
7. Provide information as required in FIM manual.	Forest inventory was completed. Information was generally submitted in the required formats. Some AR's contained inaccuracies but corrections were made at the MNR review stage. 2004 AR's were submitted late due to a priority to complete the 2005 FMP.
8. No wasteful practices.	There was a steady improvement with respect to wasteful practices and implementation of the snag guidelines (i.e. no NIC reports for the last two years of the audit period for wasteful practices and only one report in 2002-03).
9. Salvage conditions must be adhered to.	A salvage operation was conducted during the audit term (892 hectares of Po damaged by tent caterpillar). Required conditions were adhered to.
10. Pest control operations must be undertaken as required.	No pest control operations were conducted during the audit term.
11. Adherence to land withdrawal procedures.	Lands were withdrawn as a result of OLL. All conditions related to withdrawals were followed.
12. Prepare an audit Action Plan within 2 months of receiving the final audit report. Prepare a status report within 2 years of approval of the Action Plan.	The Action Plan for the IFS was submitted late. The Status Report for the IFS and the Action Plans and Status Report for the IFN were submitted on time.
13. Payment of Forest Renewal Trust renewal charges.	Payments were made as required.
14. Five year analysis of forest renewal trust Account.	The five-year analysis of the forest renewal trust account was completed March 31, 2005.

15. Minimum balance maintained in Renewal Trust Account.	The Renewal trust account records were reviewed by the auditor and it was determined that the Company maintained sufficient funds in the account on March 31st, of each year during the FMP term to meet the required minimum balance of $4,100,000 annually. The minimum balances ranged from $7.1 million to $4,169,631.
16. Maintain records of eligible silvicultural work for Renewal Trust account projects.	The auditors sampled 20% of the areas identified in the Specified Procedures Report and determined that all of the required information, maps, project records and financial records were in place. The conditions in the field matched the records in the office.
17. Silvicultural Standards must be followed.	FMP silvicultural ground rules were implemented in accordance with guidelines and manuals. On the sites inspected, silvicultural activities were appropriate to site conditions. Treatment by the selected silvicultural practice was warranted. Treatments inspected were effective in meeting the silvicultural objectives.
18. Report on the achievement of regeneration including the assessment of free-to-grow and preparation of stand descriptions for entry into the inventory.	The auditors determined that annual reports' tables identified the FTG information. A backlog of B&S assessments exists. A strategy has been implemented to address this issue. Where areas had not been determined to be FTG, the areas were on maps and within the GIS system and scheduled for new renewal activity.
19. Work co-operatively with aboriginal communities.	After major disputes early in the audit term, the Company, MNR, Taykwa Tagamou, and Wahgoshig First Nations signed a Forest Alliance Agreement. Communications were established with the Moose Cree First Nation. First Nations had limited involvement in the formal planning process but did actively participate in other ways and means to ensure their issues and concerns were accommodated. First Nations are actively involved in forest management on the forest. Both the Company and OMNR made formal efforts to discuss economic opportunities with adjacent First Nation communities.

20. Prepare a forest compliance plan.	The required Five-Year Compliance Strategy (Plan) was completed. The Company completed an annual compliance schedule for each block and activity.
21. Deliver compliance training for staff.	The Company completed all required training with staff, overlapping licences and contractors.
22. Conduct inspections of forest operations and deliver reports to OMNR in accordance with the approved plan.	While there were certified inspectors on the staff of the Overlapping Licencee, the responsibility for compliance rested with the Company. While there were instances of late reporting for IC reports, the Company and the Overlapping Licencees met their responsibilities.
23. Assume responsibility for activities on mining leases or claims and advise claim holders.	Mining leases and claim holders were advised of activities in the annual work schedule.

Progress on Recommendations from Previous Audits

The Iroquois Falls Forest and Iroquois Falls South Company Management Unit each had Independent Forest Audits in 2000. Table 9 reports on the progress on recommendations from the previous audits as reported by OMNR and the Company.

The auditor review of the Status Reports for the past IFA audits indicated that most recommendations had been actioned. In instances were the action had not been completed (e.g. Table 9, IFN # 7) the auditor has discussed the issue and provided appropriate recommendations (Section 3.4.2. and Section 3.6.2.).

TABLE 9. ACTIONS TAKEN BY ABITIBI AND OMNR IN RESPONSE TO THE 1995-2000 INDEPENDENT FOREST AUDIT RECOMMENDATIONS.

Rec.#:	**1995-2000 IFA Recommendation *Iroquois Falls North***	**Status Report on Recommendation / Action**	**Auditor Observation (2005)**
1	MNR must confirm the nature and presence of values requiring Area of Concern protection.	The NRVIS is in place and on-going. Updated values information was supplied by MNR to ACI. In future, Cochrane District will collect all of the values information for the entire IFF and create one set of values maps for the Iroquois Falls Forest.	Complete.
2	ACI must summarize, in the supplementary documentation in future plans, any public comments associated with Area of Concern prescriptions or planned primary or secondary roads as per the Class EA.	Public Comments are maintained in a binder (Abitibi) and will be summarized and inserted in the final FMP. MNR will supply a summary of comments received at their offices.	Complete.
3	ACI must ensure that the documentation requirements for planning 20-year roads are followed as per the Planning Manual.	This has been done for FMP 2005.	Complete.
4	Both ACI and MNR must refer to the Access Roads Manual when developing road use strategies and when deciding on issues associated with road abandonment.	Cochrane, Kirkland Lake and Abitibi have developed a road strategy for this FMP.	Complete. Auditor recommends addition of environmental considerations in the road abandonment strategy.
5	ACI must ensure that careful logging operations on upland sites result in full utilization of merchantable timber and that the only residual trees left are advanced regeneration or trees left for habitat management purposes.	Relevant information is reported in the Annual Report Compliance section.	Complete.

6	ACI must develop an effective slash management strategy and should include provisions for immediate implementation in the 2001-2002 Annual Work Schedule.	The Company reported (July 14, 2004) that the slash piling and slash burning program was in place. All suitable current and backlog areas were identified and are being burned. See annual slash pile burn report. Alternatives to slash pile / slash burn are being considered including increased utilization, alternative slash removal (mechanical) and other uses for slash (energy).	Incomplete. Considerable slash pile burning was observed during the field audit. However, there were many areas where piles were not burned. High costs, weather, and inadequate funds were cited as the reasons. A recommendation is provided to address this issue (Section 3.4.2.).
7	MNR and ACI must complete Annual Reports in accordance with the Planning Manual.	Annual Reports were submitted as required and according to the timetable. Some delays occurred during spring 2004 because of priorities given to the production of the Draft FMP.	Incomplete. A similar audit recommendation is provided. (Section 3.6.2.)
8	ACI must ensure that all data in the Report of Past Forest Operations tables is reported accurately.	Annual Reports are being submitted as required and according to the timetable. Some delays are occurring during spring 2004 because of priorities given to the production of the Draft FMP.	Incomplete. A suggestion is provided in Section 3.6.3.
9	ACI must develop a Memorandum of Agreement with Grant Forest Products for the provision of poplar fibre according to the terms of Appendix E of the Sustainable Forest Licence for the Iroquois Falls Forest.	Numerous drafts of the Agreement have been prepared by Abitibi and Grant for approval. Consensus has not been reached. Negotiations are on going.	Incomplete. The auditor determined that Abitibi has made reasonable efforts to finalize this MOA.

10	The audit team concluded that the pre-amalgamated Iroquois Falls Forest portion of the amalgamated Iroquois Falls Forest conformed to the requirements in effect during the audit term, with the exceptions noted in the Report, and is managed sustainably. The audit team also audited the remaining portion of the amalgamated Iroquois Falls Forest and drew a similar conclusion. Therefore, the audit team recommends that the Minister extend the term of the Abitibi-Consolidated Inc. Sustainable Forest Licence 542531 for a further five years.		N/A.

Rec.#:	**1995-2000 IFA Recommendation *Iroquois Falls South***	**Status Report on Recommendation / Action**	**Auditor Observation (2005)**
1	ACI and MNR must ensure that all assumptions made to prepare and update the inventory for modeling are fully explained in the Forest Management Plan.	This will be done for FMP 2005.	Complete.
2	ACI must verify their depletion mapping records to ensure that all harvested areas were accounted for.	This has been completed as of December 2002. All depletion records were reviewed and required updates were made.	Complete.
3	ACI must ensure that Area of Concern documentation clearly describes the unique attributes of the value being protected and provides a clear rationale for the prescription as per the Class EA.	This will be done for FMP 2005.	Complete.
4	ACI and MNR must ensure that approved supplementary documentation text and maps correspond to and represent the final Plan as per the Forest Management Planning Manual.	This will be done for FMP 2005. Draft FMP 2005 scheduled for June 2004.	Complete.

5	ACI and Tembec must document, on their compliance inspection reports, cases where merchantable birch is not utilized in accordance with the Scaling Manual.	The compliance procedure is in place to report cases where merchantable birch is not utilized. Any occurrences will be reported in the Annual Report in the compliance section.	Complete.
6	ACI and all overlapping licencees must review their Standard Operating Procedures to ensure that their operations remain in compliance with the Guidelines for the Protection of the Physical Environment as per the *Crown Forest Sustainability Act.*	SOP have been reviewed. A SOP for site disturbance is in Draft form (Abitibi) and a final version will be produced by May 2004. Site disturbance is reported in the Annual Report Compliance section. Any non-compliance will be reported. Abitibi arranged for a Site Disturbance Workshop for Abitibi and Overlapping Licencees for May 6, 2004.	Complete.
7	ACI and Tembec must ensure that careful logging operations on upland sites result in full utilization of merchantable timber, unless left for reasons of marketability or to meet other management objectives as documented in the Forest Management Plan.	The compliance procedure is in place to report cases where merchantable wood is not utilized. Any occurrences will be reported in the Annual Report in the compliance section. Any non-compliance will be reported.	Complete.
8	ACI and/or Tembec must expand slash management operations to deal with all suitable current areas and treatable backlog areas.	The Company reported (January, 2004) that the slash piling and slash burning program was in place. All suitable current and backlog areas were identified and are being burned. See annual	Incomplete. Considerable slash pile burning was observed during the field audit. However, there were many areas where

		slash pile burn report. Alternatives to slash pile / slash burn are being considered including increased utilization, alternative slash removal (mechanical) and other uses for slash (energy).	piles were not burned. High costs and inadequate funds were cited as the reasons. A recommendation is provided in Section 3.4.2.
9	MNR and ACI must complete Annual Reports in a timely fashion and in accordance with the Forest Management Planning Manual requirements.	Annual reports are being completed by Abitibi / Tembec and are being submitted on time.	Incomplete. A recommendation is provided in Section 3.6.2.
10	ACI must develop a Memorandum of Agreement with Grant Forest Products for the provision of poplar fibre according to the terms of Appendix E of the Sustainable Forest Licence for the Iroquois Falls Forest.	Numerous drafts of the Agreement have been prepared by Abitibi and Grant for approval. Consensus has not been reached. Negotiations are on going. (Latest update July 15/04).	Incomplete. The auditor determined that Abitibi has made reasonable efforts to finalize this MOA.
11	The audit team concluded that the pre-amalgamated Iroquois Falls South Company Management Unit portion of the amalgamated Iroquois Falls Forest conformed to the requirements in effect during the audit term, with the exceptions noted in the Report, and is managed sustainably. The audit team also audited the remaining portion of the amalgamated Iroquois Falls Forest and drew a similar conclusion. Therefore, the audit team recommends that the Minister extend the term of the Abitibi- Consolidated Inc. Sustainable Forest Licence # 542531 for a further five years.		N/A.

4.0. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

A total of eight recommendations and three suggestions are made to the Company and/or OMNR to address issues identified during the audit.

A summary of conclusions related to the 8 IFAPP guiding principles follows.

Commitment

Company policy documents met all the requirements of the IFAPP. The Company had a formal Environmental Management System (EMS) that established standards, responsibilities, training, and monitoring for all aspects of its business including sustainable forestry. The Company had obtained ISO 14001 Registration and had ongoing and effective training programs and communication with its employees and contractors. Company policies and directions were reflected in its day-to-day operations.

The Cochrane and Kirkland Lake OMNR had complied with all OMNR policies and directions associated with forest sustainability and staff had been provided with the required training and information.

Public Participation

For the 2000 FMP planning process Kirkland Lake District had a representative and active Local Citizens Committee (LCC). The LCC was constituted and operated as required. The auditor noted that while the Kirkland Lake LCC generally met its responsibilities, it had some concerns regarding its capacity and expertise in fully meeting those responsibilities.

The Cochrane District LCC had serious recruitment and retention problems that affected its ability to carry out its responsibilities. The LCC did not perform all the functions mandated by its TOR. The LCC did not function for a period of time. The Cochrane LCC had a number of issues that hindered its effective operation. It had responsibility for four different Forests and members indicated that they had problems associated with available time, knowledge and training.

A recommendation is provided to assist the OMNR District Manager and LCC members to discuss and resolve issues that have detracted from the Committee's effectiveness.

Cooperation between First Nations, the Company, and OMNR was strained early in the plan period. Negotiations resolved many of the issues by the end of the plan term. First Nation FMPM requirements were met and OMNR responsibilities for EA Condition 77 was substantially met.

All public notices and consultation requirements of the FMPM were adhered to. Required contacts were made with First Nation communities.

For the 2005 FMP process, LCCs in Cochrane and Kirkland Lake Districts were established by the respective District Managers and their activities met FMPM requirements.

Forest Management Planning

A multi-disciplinary planning team was established for the 2000-2005 FMP and approved by the Cochrane OMNR District Manager. A complete Terms of Reference consistent with the requirements of the FMPM was approved and the team functioned effectively.

The auditor found that all relevant sources of direction were followed for the development of the FMP. The forest management plan objectives were prepared in accordance with the requirements of the FMPM. The development of management alternatives portraying various circumstances and sets of management objectives was logical and well structured, and the Selected Management Alternative is considered sustainable.

Areas selected for harvest, tending and renewal operations met FMPM requirements. Preferred silvicultural treatment packages and silvicultural ground rules were properly identified and prescriptions to protect specific values were developed through Area of Concern (AOC) planning.

Forest Compliance Plans were prepared and approved by the OMNR District Managers. The auditor determined that a number of timelines and requirements of the Annual Reports, and the Report of Past Forest Operations were not fully met. A recommendation is provided to address these issues.

Planning activities for the development of the 2005 FMP conformed to the FMPM. The 2005 Selected Management Alternative had the best balance of timber and non-timber objectives and was considered by the auditor to be sustainable.

Plan Implementation

Forest operations inspected during the audit conformed to FMPM requirements. Site inspections found harvest and renewal operations were conducted in accordance with the approved silvicultural ground rules and that most operations demonstrated good utilization and protection of soils and waterways. The Company implemented a slash piling and pile burning program. Targets for the program were not fully achieved. A recommendation is provided.

The need for flexibility and creativity in the implementation of forest management guidelines was observed. Suggestions are provided to improve implementation of some forest management guidelines.

The audit of documents and records indicated that some reporting tables contained incomplete information (e.g. Annual Reports Table AR-12). The auditor noted that a backlog of regeneration assessments exists on the forest. Recommendations are provided to address these concerns.

Field observations indicated that the forest is adequately regenerating. On renewal sites observed during the field audit, areas scheduled for natural regeneration contained adequate to high stocking levels (e.g. CLAAG/HARP sites). The use of HARP and CLAAG harvesting techniques, applied extensively on the IFF, is supported by research and approved by OMNR. The shift towards increased natural regeneration has not resulted in significant changes in forest composition on the IFF (i.e. conifer dominated stands to mixed wood stands).

Areas which received artificial regeneration treatments were well-stocked with few exceptions (in IFS, heavy competition resulted in some sites requiring additional in-fill planting or re-treatment). Seeding targets were not achieved as CLAAG and HARP resulted in adequate natural recruitment.

The Company exceeded targets for the aerial herbicide program. During the FMP term, actual mechanical site preparation on the IFF was reduced. This reduction in the area of mechanical site preparation took place as the result of careful logging methods that resulted in considerably more natural regeneration than more conventional clearcutting.

System Support

The Company and the OMNR offices had effective record keeping and retrieval systems including GIS capacity.

The auditor determined that there were data inconsistencies and missing data in some Annual Reports. Recommendations are provided to address this concern.

Monitoring

Audit field inspections, review of data and interviews with OMNR staff indicate there was an effective field compliance monitoring program on the Forest. In the field the auditor observed that prescriptions adhered to appropriate guidelines.

Achievement of the Management Objectives and Forest Sustainability

The Company met most of the Forest Management Plan objectives. When plan objectives were partially met an acceptable rationale was provided to explain the variances between planned and actual results.

The *Crown Forest Sustainability Act* requires that a determination of the sustainability of Crown forests be made using the following criteria: biodiversity, forest condition and ecosystem productivity, soil and water quality, multiple benefits to society, and accepting society's responsibility for sustainable development. Based on an assessment of these criteria, the auditor determined that during the audit period the management of the Iroquois Falls Forest met the conditions of forest sustainability as defined by the CFSA.

Contractual Obligations

With the exception of a negotiated wood supply agreement with Grant Forest Products, the Company met its contractual obligations.

Conclusion

With full consideration of 2005 IFAPP principles and criteria, the auditor concludes that management of the Forest was in compliance with the legislation, regulations, and policies that were in effect during the audit term. With the exceptions noted in this report, the requirements of the Sustainable Forest Licence (SFL) have been met.

The auditor recommends that the Minister extend SFL # 542531 for a further five-year term.

Recommendation # 8/Conclusion:

The auditor recommends that the Minister extend SFL # 542531 for a further five-year term.

TABLE 10. SUMMARY OF RECOMMENDATIONS AND SUGGESTIONS

Principle 1: Commitment
No Recommendations or Suggestions
Principle 2: Public Participation
Recommendation # 1: The OMNR District Manager should conduct a workshop with past and present LCC members to discuss problems and develop strategies to enable the successful functioning of the Cochrane LCC.
Principle 3: Forest Management Planning
Suggestion # 1: Corporate OMNR guideline training should reconfirm the degree of flexibility that planning teams have in implementing guidelines. **Suggestion # 2:** Corporate OMNR should increase understanding (e.g. educational material) of the rationale and process for developing and implementing forest management guidelines.
Principle 4: Plan Implementation
Recommendation # 2: Abitibi should establish a measurable target and a schedule for slash reduction over the next five years. **Recommendation # 3:** Abitibi must take immediate action to address the existing backlog in regeneration surveys (free-to-grow) on the Forest. **Recommendation # 4:** Abitibi-Consolidated's road abandonment strategy should assess environmental impacts related to the timing and removal of culverts and bridges.

Suggestion # 3:

Future planning teams should carefully assess the biological and economic costs and benefits of the marten guidelines specific to the forest attributes and harvesting systems utilized on the IFF.

Principle 5: Systems Support

No Recommendations or Suggestions.

Principle 6: Monitoring

Recommendation # 5:

OMNR and industry should review their FOIP reporting performance and examine ways to meet reporting requirements.

Recommendation # 6:

Local OMNR and the Abitibi must ensure that Annual Reports meet FMPM requirements and that reports on file at OMNR and Company offices are complete, correct, and similar.

Recommendation # 7:

Abitibi should ensure that future reports (e.g. Year Ten Management Unit Annual Reports) provide analysis, explanation and discussion of emerging trends to support forest management decision-making and the assessment of the effectiveness of past forest management practices.

Principle 7: Achievement of Management Objectives and Forest Sustainability

No Recommendations or Suggestions.

Summary of Conclusions and Recommendations

Recommendation # 8/Conclusion:

The auditor recommends that the Minister extend SFL # 542531 for a further five-year term.

APPENDIX A

COMPARISON & TREND ANALYSIS OF PLANNED VS. ACTUAL FOREST OPERATIONS REPORT

Comparison and Trend Analysis
of
Planned Versus Actual
Forest Operations Report

for the

2005 Independent Forest Audit
of the
Iroquois Falls Forest SFL# 542531
Cochrane (Kirkland Lake) District, Northeast Region

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Date: August 10, 2005

TABLE OF CONTENTS

INTRODUCTION: 1
MANAGEMENT UNIT DESCRIPTION: 1
Historical statement: 1
Administration: 1
Description of land base: 2
Current and Past Forest Management Plans: 4
Current 2000 to 2020 Forest Management Plan: 4
Past plan: 1995 to 2015 TMP covering the 1995 to 1920 five year operating term for the original FMA 500200 (IFN): 4
Past plan: 1996 to 2016 TMP covering the 1996 to 2000 four year operating term for the Iroquois Falls South Company Management Plan: 4
Past plan: 1990 to 2010 TMP covering the 1990 to 1995 five-year operating term for the original FMA 500200 (IFN): 5
Past plan: 1991 to 2011 TMP covering the 1991 to 1996 five-year operating term for the Iroquois Falls South Company Management Plan: 5
DESCRIPTION OF THE CURRENT IROQUOIS FALLS FOREST: 6
Total area: 6
Geology, Soils and Site: 6
HISTORIC FOREST CONDITION 7
Natural Disturbance: 7
Current Forest Conditions: 8
Forest Resource Inventory: 8
New Forest Resource Inventory: 9
PAST TIMBER MANAGEMENT PLANS: 9
Current Status of Iroquois Falls Forest: 9
Summary of Planned and Actual Harvest Volumes (Trend Analysis Table 3): 12
Summary of Planned and Actual Depletion Areas (Trend Analysis Table 4): 17
Summary of Managed Productive Forest by Forest Unit (Trend Analysis Table 5): 22
Objective: Maintain the proportion of major forest units (working groups) through time 22
Summary of Planned and Actual Renewal & Maintenance (Trend Analysis Table 6): 26
Harvested Area Successfully Regenerated (Trend Analysis Table 7): 34
Summary of Results of Regeneration Success for Iroquois Falls North and South: 37
REGENERATION SUCCESS: 37

SUMMARY 39

TREND ANALYSIS TABLES 42

LIST OF FIGURES

FIGURE 1: KEY MAP OF THE IROQUOIS FALLS FOREST 3
FIGURE 2: SUMMARY OF TOTAL LAND AREA UNDER MANAGEMENT 10
FIGURE 3A: SUMMARY OF ACTUAL VERSUS PLANNED HARVEST VOLUMES FOR IFN 14
FIGURE 3B: SUMMARY OF ACTUAL VERSUS PLANNED HARVEST VOLUMES FOR IFS 17
FIGURE 4A: SUMMARY OF PLANNED VERSUS ACTUAL DEPLETION AREA - IFN 18
FIGURE 4B: SUMMARY OF PLANNED VERSUS ACTUAL DEPLETION AREA - IFS 20
FIGURE 5A: RENEWAL - IFN 27
FIGURE 5B: SITE PREPARATION - IFN 29
FIGURE 5C: TENDING - IFN 30
FIGURE 6A: RENEWAL - IFS 32
FIGURE 6B: SITE PREPARATION - IFS 33
FIGURE 6C: TENDING - IFS 34

LIST OF TABLES

TABLE 1: PLAN TERMS ON THE IROQUOIS FALLS FOREST 4
TABLE 2: FOREST UNIT TRENDS BY OPERATING TERM 23
TABLE 3A: FTG SURVEYS – IFN 35
TABLE 3B: FTG SURVEYS – IFS 36

INTRODUCTION:

This report was prepared as part of the 2005 Independent Forest Audit of the Iroquois Falls Forest for the April 1, 2000 to March 31, 2005 audit term. The purpose is to provide an interpretation of the current state of the Iroquois Falls Forest relative to its historical state. The comparison and trend analysis report will address the following questions about the past (two five-year terms) and the present (current five years) Crown managed productive forest land on the Iroquois Falls Forest (IFF):

1) What is the extent of area under management (Table 1);
2) What are the forest units used to describe the IFF (Table 2);
3) What are the planned and actual harvest volumes (Table 3);
4) What are the planned and actual harvest areas (Table 4);
5) What are the forest unit area summaries (Table 5);
6) What are the planned and actual renewal and maintenance areas (Table 6);
7) What percentage of the harvested areas, have been successfully regenerated (Table 7a, 7b).

The current Forest Management Plan (FMP) and the past Timber Management Plans (TMP), the Forest Resource Inventory (FRI), the Report of Past Forest Operations (RPFO), the Annual Reports (AR) and the forest planning system are of critical importance to the comparison of past, present and future conditions. These plans, databases and records have contributed to the preparation of this Trends Analysis Report.

MANAGEMENT UNIT DESCRIPTION:

HISTORICAL STATEMENT:

The Abitibi Paper Mill was constructed between 1912 and 1915. Abitibi has had licenses to harvest wood since that time. Forest operations have, therefore, taken place on the Iroquois Falls Forest for 90 years.

ADMINISTRATION:

On April 14, 1999, a sustainable forest licence was approved by order-in-council and SFL# 542531 was issued to Abitibi-Consolidated Inc. (now Abitibi-Consolidated Company of Canada). This new license encompasses what was previously known as the Iroquois Falls Forest FMA and the Iroquois Falls South Company Management Unit.

The Iroquois Falls Forest is located in the Northeast Region of the Ontario Ministry of Natural Resources. Approximately eighty per cent of the forest is within the administrative District of Cochrane and twenty per cent is within the administrative District of Kirkland Lake. Cochrane District is the lead administrative district for the IFF although Kirkland Lake District has direct input into the planning and administrative responsibilities for those areas within that district.

DESCRIPTION OF LAND BASE:

The IFF is comprised of parts or all of 149 Ontario Base Maps (OBM), each base map being 10 kilometres by 10 kilometres. Figure 1 on the following page depicts the IFF in relation to the MNR districts and the Northeast Administrative Region. The Abitibi-Consolidated Mill and the Woodlands office are located in Iroquois Falls and is located on the west boundary of the IFF. Abitibi-Consolidated administers the Iroquois Falls Forest from the Iroquois Falls Woodlands office. The location of the Company office and the Iroquois Falls mill are illustrated on the Management Unit Map (Figure 1).

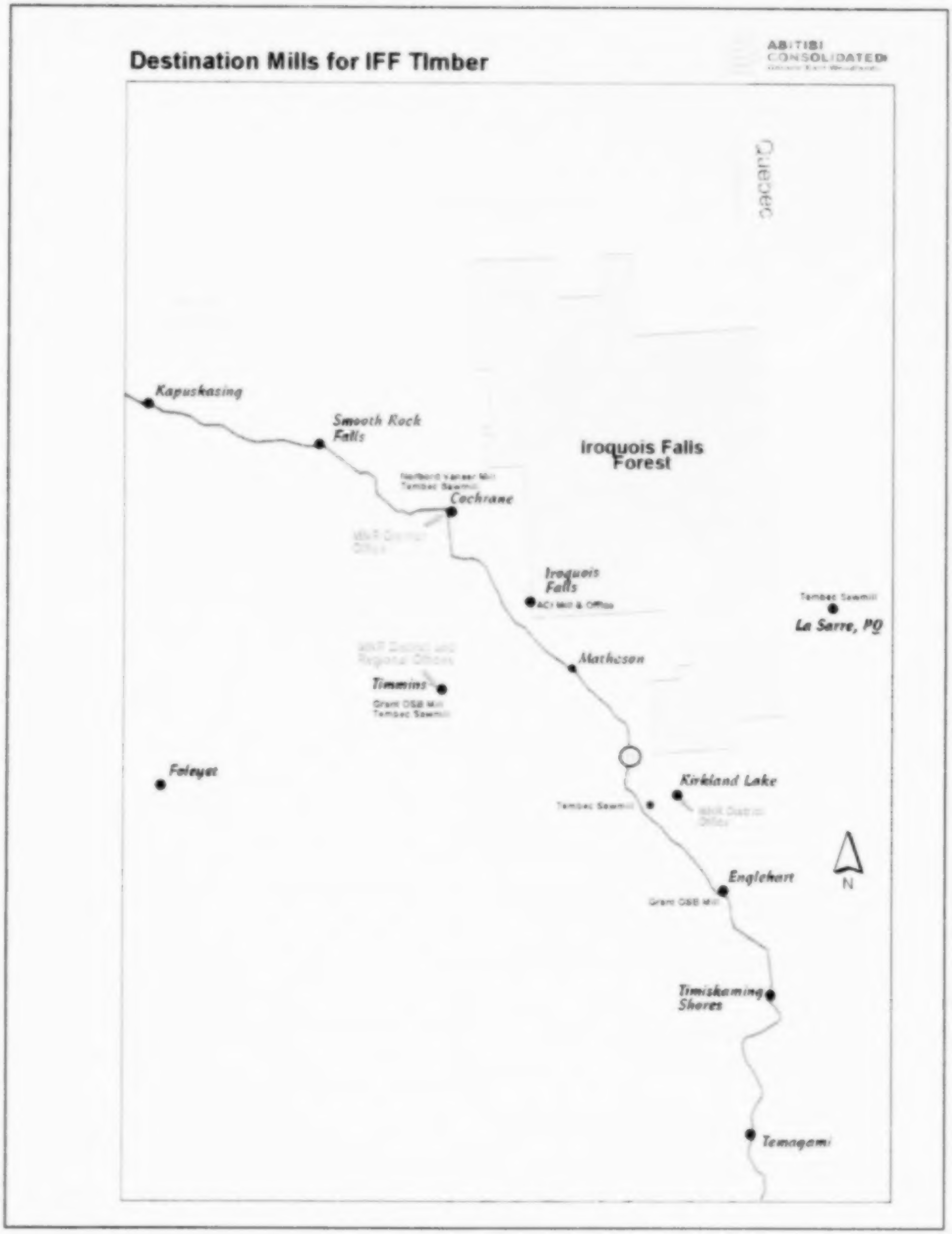

Destination Mills for IFF Timber
ABITIBI CONSOLIDATED
Quebec
Kapuskasing
Smooth Rock Falls
Iroquois Falls Forest
Norbord Veneer Mill
Tembec Sawmill
Cochrane
MNR District Office
Iroquois Falls
ACI Mill & Office
Tembec Sawmill
La Sarre, PQ
MNR District and Regional Offices
Matheson
Timmins
Grant OSB Mill
Tembec Sawmill
Foleyet
Kirkland Lake
Tembec Sawmill
MNR District Office
Englehart
Grant OSB Mill
N
Timiskaming Shores
Temagami

FIGURE 1: KEY MAP OF THE IROQUOIS FALLS FOREST

CURRENT AND PAST FOREST MANAGEMENT PLANS:

This trend analysis report documents two past timber management plans and the current forest management plan as follows:

TABLE 1: PLAN TERMS ON THE IROQUOIS FALLS FOREST

	Plan Term: IFN	Plan Term: IFS
Current 5-year FMP	2000 to 2005	2000 to 2005
Previous 5-year TMP	1995 to 2000	1996 to 2000 (4-years only)
Previous 5-year TMP	1990 to 1995	1991 to 1996

CURRENT 2000 TO 2020 FOREST MANAGEMENT PLAN:

This plan covers the 2000 to 2005 five year operating term and includes the new SFL 542531 (IFN and IFS). This plan was prepared under the new Forest Management Planning Manual (September 1996) by Abitibi-Consolidated using 1989 FRI and 1986 photography. Many areas have been updated with new photography as of 1997. Significant changes in forest typing occurred for this management period. Extensive "Barren and Scattered" area surveys have been carried out between 1990 and 1999. Much of the B&S was re-classified as productive forest. The new SFMM wood supply model was used.

PAST PLAN: 1995 TO 2015 TMP COVERING THE 1995 TO 1920 FIVE-YEAR OPERATING TERM FOR THE ORIGINAL FMA 500200 (IFN):

This plan was prepared by Abitibi-Consolidated using the 1986 TMP manual, the 1989 Forest Resource Inventory (FRI), and 1986 photos. The FRI was updated to account for depletions and renewal. In this plan, the maximum allowable depletion (MAD) calculations were done using the area regulation model MADCALC (version 5.0.0) and a volumetric analysis using the volumetric regulation model FORMAN 2.1. The MADCALC program was also used to verify the chosen NORMAN model scenario. This plan was fully implemented by Abitibi-Consolidated for the five-year term from 1995 to 2000.

PAST PLAN: 1996 TO 2016 TMP COVERING THE 1996 TO 2000 FOUR YEAR OPERATING TERM FOR THE IROQUOIS FALLS SOUTH COMPANY MANAGEMENT PLAN:

This plan was also prepared by Abitibi-Consolidated using the 1986 TMP manual, the 1989 Forest Resource Inventory (FRI), and 1986 photos. The FRI was updated to account for depletions and renewal. In this plan, the maximum allowable depletion (MAD) calculations were done using the volumetric regulation model FORMAN 2.1. In addition, the output of the

FORMAN model was verified using an early version of the Strategic Forest Management Model (SFMM). This plan was written by Abitibi-Consolidated (Abitibi-Price) but was implemented by Malette Inc. which bought the Kirkland Lake Sawmill of Norbord (Normick Perron), which had overlapping licenses with Abitibi for the four-year period from 1996 to 2000. MNR conducted all surveys, renewal and maintenance work during 1996 but subsequently as MNR was phasing out its operations, Malette and Abitibi took on survey and renewal and maintenance responsibilities although they did not possess the legal right or responsibility to do so at the time.

The Iroquois Fall South Company Management Unit became part of the Iroquois Falls Forest SFL as the Iroquois Falls South Forest on April 14, 1999. Initially, this plan was to have a five-year term to 2001 but on April 1, 2000 the unit was amalgamated into the Iroquois Falls Forest and as a result, the term was shortened to four years.

PAST PLAN: 1990 TO 2010 TMP COVERING THE 1990 TO 1995 FIVE-YEAR OPERATING TERM FOR THE ORIGINAL FMA 500200 (IFN):

This plan was prepared by Abitibi-Consolidated (Abitibi-Price) using the 1986 TMP manual and the 1989 FRI. Wood supply calculations were done using Madcalc 3.0.3 and the OWOSFOP model, an area based simulation model. The seven forest units defined for this plan were based on working groups. This plan was written and fully implemented for the five-year term from 1990 to 1995 by Abitibi Consolidated. Final versions of the RPFO tables were available for this period in the Report of Past Forest Operations for the Iroquois Falls Forest.

PAST PLAN: 1991 TO 2011 TMP COVERING THE 1991 TO 1996 FIVE-YEAR OPERATING TERM FOR THE IROQUOIS FALLS SOUTH COMPANY MANAGEMENT PLAN:

This plan was prepared by Abitibi-Consolidated (Abitibi-Price) using the 1986 TMP manual and the 1989 FRI. Wood supply calculations were done exclusively using Madcalc 3.0.3, an area based simulation model. Acceleration factors were required to be used to remove an excess of over mature timber. The six forest units defined for this plan were based mostly on working groups with a split by site class in the spruce working group. Larch and cedar were grouped in with balsam fir and balsam poplar was grouped in with aspen poplar. This plan was written by Abitibi-Consolidated (Abitibi-Price) but was implemented by Normick Perron Inc., which had overlapping licenses with Abitibi for the five-year period from 1991 to 1996. MNR conducted all surveys, renewal and maintenance work during this time period. Preliminary RPFO tables appear in the 1996-2016 TMP but final versions were not created until February 2000.

DESCRIPTION OF THE CURRENT IROQUOIS FALLS FOREST:

TOTAL AREA:

The Iroquois Falls Forest (IFF) contains a total land base of 1,168,094 hectares including water, non-forested land and productive forest land and patent land. This land base includes two previously separate licence areas, the Iroquois Falls Forest (FMA 500200) and Iroquois Falls Forest South Company Management Unit. A summary of the FMP land base can be found in trend analysis table 1.

GEOLOGY, SOILS AND SITE:

The major portion of the Iroquois Falls Forest lies within that distinct physiographic section of the Boreal Forest known as the Great Northern Clay Belt. The most northerly is situated on the James Bay coastal plain and that part of the Forest south of Lake Abitibi is within the Central Transition Zone.

Soils in the Iroquois Falls Forest are the result of glacial and post-glacial events. The clay soils have been derived from sediments deposited by post-glacial Lake Barlow-Ojibway. Peat and organic soils, overlying the marine sands and clays, resulted from the deposition of vegetative matter in association with poorly drained land.

Most of the Unit is gently rolling and poorly drained. The clay surface is broken in places by low knolls and ridges consisting of older glacial and glacial fluvial deposits (i.e. north-to-south trending eskers and esker complexes, kames and drumlins). Stream and gully dissected clay plains, occasional bedrock outcrops and extensive swamps and bogs also provide variation to the landscape. An outstanding example of a jack pine covered esker is the Munro system, which extends from north of Lake Abitibi south for a distance of over 100 kilometres.

The Forest is characterized by stretches of stands of black spruce on gently rising uplands or on lowland flats. On the lowland flats, black spruce alternates with extensive sedge fens and sphagnum bogs. Hardwood or mixed wood stands of trembling aspen, balsam poplar, balsam fir and white and black spruce are found on better drained sites. Jack pine is found on drier sites such as outwash deposits, old beaches, and eskers. White birch is prominent on sandy soils.

The majority of the Iroquois Falls Forest is drained by one major watershed: The Lake Abitibi - Abitibi River system. The Abitibi River system eventually flows into the Moose River and ultimately into James Bay at Moosonee. A very small corner of the southern portion of the Iroquois Falls Forest drains southward into the Great Lakes system.

HISTORIC FOREST CONDITION

NATURAL DISTURBANCE:

The Iroquois Falls Forest landscape is very much a result of large natural disturbances. Within the Great Northern Claybelt Section of the Boreal Forest, two forms of natural disturbance are major factors; fire and windthrow. Both disturbances have played significant roles in the natural succession within the forest landscape. In most areas within the Boreal Forest, fire has been the dominant factor in maintaining a typical even-aged structure in intolerant Boreal species. Although each stand originates from fire, the frequency between is greatly increased in the Claybelt especially on peatland sites, which can average 200 to 600 years. Few major disturbances have taken place within the Iroquois Falls Forest since the major fires of the early twentieth century. In recent times, the spruce budworm epidemic of the late 1970's and early 1980's has resulted in severe damage to the balsam fir component and significant damage to the white spruce component of the forest. More recently, a severe windstorm on November 27, 1985 cut a 15 kilometre wide swath northeast from Iroquois Falls across the forest. Jack pine stands in its path suffered, in some cases, virtually 100% blowdown while spruce on uplands suffered blowdown in the 10% to 30% range. Spruce on lowlands was unaffected as was the poplar in most cases. On October 2, 1986, a wet snowstorm accompanied by winds caused significant top damage to an extensive area of the forest from Iroquois Falls north to Pierre Lake and east almost to the Quebec border.

Several natural depletions have taken place. Loss from fire has been minimal in the past 40 years. One fire during the 1988 season consumed 600 ha of productive and non-productive forest land in the north central section of the forest and a second fire in 1997 close to Iroquois Falls consumed approximately 2000 ha. These were the largest single fire losses in 30 years. Several smaller fires have also occurred but the area seems to be very resilient to fire losses primarily because of the wet ground conditions that predominate. Within the last 30 years, 1968 to 1998, approximately 3000 hectares of area has burned on the Iroquois Falls Forest.

Iroquois Falls South has experienced several natural calamities since the turn of the century. The Great Fires of 1917 and 1922, which took hundreds of human lives in the immediate area, raged through IFS and laid the foundation for a forest structure dominated by jack pine, aspen, balsam fir and spruce. More recently, the massive spruce budworm epidemic of the late 1970's to mid-1980's has drastically reduced the balsam fir component of the IFS while seriously damaging the white spruce component.

CURRENT FOREST CONDITIONS:

The following description of the current forest condition is used as a basis for planning and management of forest ecosystems. The current forest condition (FMP 2000) is used as a baseline for forest management planning in order to achieve the desired future forest condition.

FOREST RESOURCE INVENTORY:

The Iroquois Falls Forest is 1,168,094 hectares (all lands) with a total area of Crown managed productive forested land of 975,347 hectares. Patent land represents 1.3% of the total land base. The current status of the land base for the management unit is summarized in Table 1.

The Iroquois Falls Forest is comprised of 149 full or partial base maps (OBM at 10 km. by 10 km.). Map and stand information originated from the latest complete Forest Resource Inventory of the landbase which took place in 1988 based on 1986 photography. This was the first digital inventory for the IFF. It has since been updated for the 1995-2015 plan and again for the current plan 2000-2020.

The FRI data for the Iroquois Falls Forest has been updated to April 1, 2000 for the preparation of this forest management plan. These updates included changes to harvest or natural depletion, which have occurred since 1995, and additions of free-to-grow areas back into the managed Crown forest land base.

Updates made to the land base consist of harvest blocks estimated to be depleted by 2000. Areas declared Free to Grow include depleted areas up to 1994.

There are three Provincial Parks located within the IFF: the Little Abitibi Provincial Park, the Abitibi-Detroyes Provincial Waterway Park, and Esker Lakes Provincial Park. In addition, the Ontario Living Legacy has designated a number of areas as Park Land and Conservation Reserve. No forest management activities are allowed within Provincial Park boundaries and Conservation Reserves. Table 1 in this trend analysis report excludes these areas from the managed forest review.

NEW FOREST RESOURCE INVENTORY:

The most recent major aerial photography was undertaken in 2002. This is the first major update since 1986. A full Forest Resource Inventory was initiated in 2003 and will be completed no later than 2007 in time for the initial preparation for the next Forest Management Plan (2010-2030).

PAST TIMBER MANAGEMENT PLANS:

There were two license areas during this plan period. The 1990 plan for the Iroquois Falls Forest Management Agreement (FMA) was a TMP for the 1990 to 1995 operating term. The 1991 plan for the Iroquois Falls South Company License was a TMP for the 1991 to 1996 operating term. Abitibi-Price Inc. prepared both plans, according to the requirements of the 1986 Timber Management Planning Manual.

Both TMP's utilized the 1988 FRI, which was based on 1986 aerial photos. There were seven forest units utilized based on working groups and site classes. This plan was fully implemented for the five-year term from 1990 to 1995 for Iroquois Falls FMA and 1991 to 1996 for the Iroquois Falls South Company License. Final versions of the RPFO tables based on the TMPM were available for this period in the Report of Past Forest Operations incorporated into the 1995 and 1996 TMP's.

CURRENT STATUS OF IROQUOIS FALLS FOREST:

On April 14, 1999, a sustainable forest licence was approved by order-in-council and SFL# 542531 was issued to Abitibi-Consolidated Inc. This new license encompasses what was previously known as the Iroquois Falls Forest FMA and the Iroquois Falls South Company Management Unit.

This trend analysis report covers three operating terms: FMP 2000 is the amalgamated Iroquois Falls (north and south). Previous to this term, the operating terms for the north and the south were different. For ease of comparison this trend analysis compares the north and the south separately except for the area comparison (table 1).

SUMMARY OF TOTAL AREA UNDER MANAGEMENT (TREND ANALYSIS TABLE 1):

This figure is a summary of the entire Iroquois Falls Forest. The IFF is sub-divided into Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

The source of the total area under management data was Table 4.8.2. for past plans and a combination of FMP-1, FMP-2 and the digital Geographic Information System free-to-grow information for the current plan. All tables report managed Crown land area. Parks and patented lands are not included. All depleted areas were included in the barren and scattered figures.

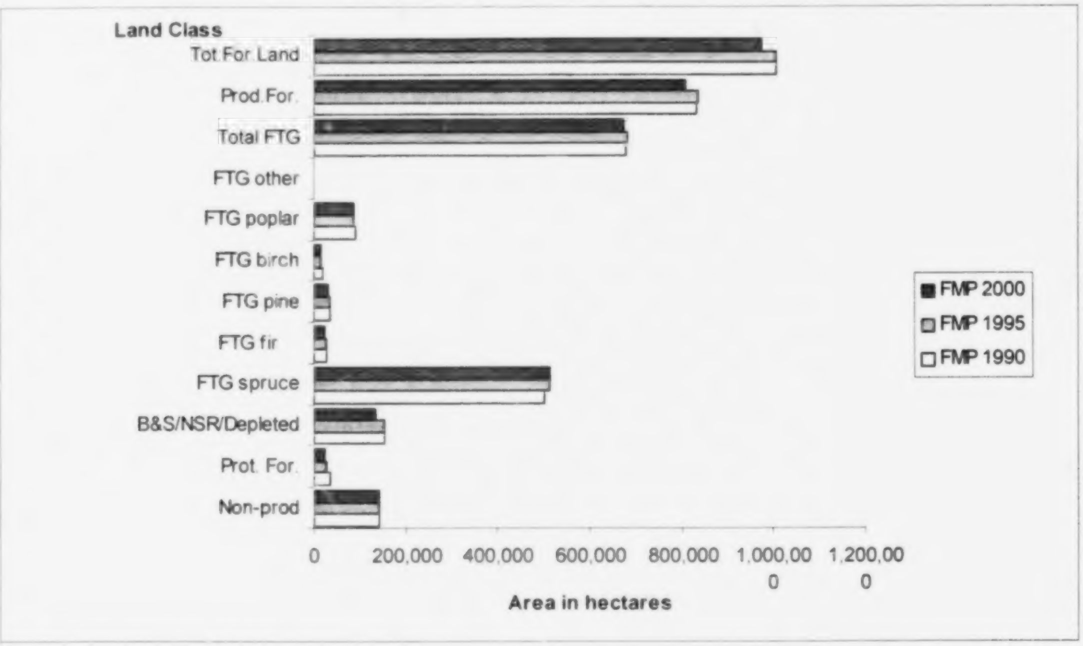


FIGURE 2: SUMMARY OF TOTAL LAND AREA UNDER MANAGEMENT

Total forested land was reduced between 1990 and 2000 by 3.1%. Production forest was reduced during the same two terms by 2.7%. Total Free-to-Grow (FTG) between 1990 and 2000 was reduced by 0.9%. These reductions are attributed to the identification and designation of areas to OLL (Ontario Living Legacy).

For comparison purposes, forest units have been combined into the major working group species for this area; for the softwood species these are: spruce, pine, fir, and other conifer; for the hardwood species these are: poplar and birch.

All working groups except for spruce declined between 1990 and 2000. Again this is largely attributed to the loss of area to the OLL. The spruce working group increased by 3.1% or 15,390 ha. This increase is attributed to the accelerated planting program especially during the 1990 to 1995 operating term.

Areas identified as "barren and scattered, NSR (not sufficiently regenerating) and depletion" have been grouped into one category. Between 1990 and 2000, this category decreased by 11% or 16,735 ha Generally depletions over a five-year term represent up to 38,000 ha or 7600 ha annually. Areas, which have been depleted during the operating term will take a minimum of 7 years to reach the free-to-grow declaration stage. Some areas, especially the lowland peat sites will take 11 years or more. Therefore, at any time there will be 60,000 to 70,000 ha of recently depleted area in the inventory system. The total in 2000 is 135,941 ha. The majority of difference in area between recent depletions (70,000 ha.) and the total category (135,941) is anticipated to be older depleted areas, which have never been assessed for FTG.

The action plan to update this data is;

- Annual FTG surveys: a portion of the older B&S areas are included in the annual FTG surveys, mostly using helicopter access.
- B&S areas generally older than 15 to 20 years will be re-assessed in the new complete FRI, which was initiated in 2003 based on 2002 aerial photography. This inventory will be completed by 2007. These B&S areas generally are renewing naturally and when re-inventoried will be re-assigned to respective forest units.
- The annual FTG program will be scheduled to survey a minimum of the average annual depletion in order to maintain the depletion layer at a constant level.

In summary, the identified changes to the landbase are largely attributable to the loss of area to OLL. With no further losses to the landbase, the Iroquois Falls Forest should be positive in terms of the forest's ability to supply the desired benefits over time. The incorrect depiction of excessive barren and scattered area will be largely corrected with the new inventory in 2007. Currently an assessment coverage within the GIS system is in place that accounts for all barren and scattered area and all areas scheduled for future assessments.

DESCRIPTION OF FOREST UNITS (TREND ANALYSIS TABLE 2):

For ease of comparison, this table is sub-divided into Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

Table 2a FMP 2000, table 2b TMP 1995, table 2c TMP 1990– Description of Forest Units:

Three different sets of forest units are depicted in Tables 2a to 2c. This information came from FMP-8 for current plans and the plan text for past plans.

Both the 1990 and 1995 TMPs (Table 2b, 2c) used seven forest units based on working group and site class. There were three spruce forest units: Sp1, Sp2 and Spr3 which attempted to separate the spruce upland, spruce slope and spruce lowland spruce sites. The balsam fir working group included the B forest unit and the small amount of other conifer (cedar and tamarack). All of the poplar working group was included in the Po forest unit, all birch in Bw forest unit and jack pine in Pj forest unit.

In the 2000 FMP (Table 2a) the forest units increased in complexity and moved from simple working group and site class amalgamations to complex groupings based on working groups, species composition and site class. This increased the forest units to twelve. The biggest change was the classification of stands into pure, mixedwood, and incidental forest units based on species composition. Pure forest units included popur (poplar), bwpur (birch), sbloc (spruce lowland CLAAG), sbloh (spruce lowland HARP), spupl (spruce upland), and pjpur (jackpine), while mixedwood forest units included sphmx (spruce hardwood mixed), pjmix (jack pine mixed), bfpmx (balsam fir pure and mixed), bwmix (white birch mixed), pomix (poplar mixed) and othco (cedar and larch).

The forest unit definitions show an increase in complexity in FMP 2000 compared with the previous two plan terms. They reflect the differences in the types of stands being managed. Because the spruce working groups represent over 75% of the managed forest, spruce was sub-divided into four forest units. This allowed identification of two separate SGR's for the black spruce lowland sites and separated the more pure spruce found on the spruce intermediate upland sites from the mixed spruce/hardwood sites. Separating poplar sites into pure and mixed also allowed for improved SGR development. Although there is increased complexity in the forest units, they can be summarized relatively easily with the MNR Northeast Region standard forest units.

SUMMARY OF PLANNED AND ACTUAL HARVEST VOLUMES (TREND ANALYSIS TABLE 3):

For ease of comparison, this table is sub-divided into Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

The sources for the planned annual harvest volumes were the Table 4.18.1 for the past plans and the FMP-21 for the current plan. The actual past annual harvest volumes were based on the Final RPFO Table 4.3.1 or RPFO-3. Because the 2000-05 RPFO is not yet available, and the 2004-05 annual report is not yet completed, the actual annual harvest volumes were based on the average of the four AR-3 tables (i.e. 2000-01, 2001-02, 2002-03 and 2003-04).

Iroquois Falls North:

The harvest objective in the 1990 management plan was to maintain a sustainable and regulated volume of marketable fibre over the period of the plan for the licensee, Abitibi-Price Inc. A second objective proposed increasing the utilization of poplar.

By comparison, the 1995 plan included an objective of maintaining a conifer fibre supply to the Abitibi mill. However, a key difference is the re-direction of roundwood to designated sawmills with an equivalent exchange of spruce fibre in the form of chips to the Abitibi mill. At the same time, markets for poplar veneer and poplar OSB were in place.

Management objectives in previous terms included an "oldest first" philosophy while maximizing (accelerated AAC) the allowable cut to reduce the amount of over-mature timber on the limit. Also there was an objective to convert the less desirable forest units, such as, balsam fir to spruce forest units. The 46% reduction in conifer volume is attributable to the previously mentioned loss of hectares and, in addition, an adjustment to yield tables, which resulted in a reduction of yields per hectare from 77 cubic metres per hectare to 62 m^3/ha - a more accurate average determined from historical harvest data.

More recent plans, i.e., 1995 and 2000, include the following objectives: maintain all forest units at present levels, address the concerns of other users and other uses and harvest at normal sustainable levels. The levels of allowable harvest are 7120 ha for 1995 and for 7640 ha for 2000 for all forest units. The estimated volumes for 1995 are 445,000 m3 of conifer and 150,000 m3 of poplar and for 2000 are 478,000 m3 of conifer and 132,000 m3 of poplar.

The actual conifer volumes harvested within Iroquois Falls North ranged from 85.9% of plan in TMP 1990 to 78.7% in TMP1995 and 77.9% in FMP 2000.

The actual hardwood volumes harvested within Iroquois Falls North ranged from 81.3% of plan in TMP 1990 to 75.2% in TMP1995 and 84.0% in FMP 2000.

Shortfalls for actual versus planned can be attributed to low demand during the plan term because of poor market conditions as well as labour disputes. Abitibi experienced its worst year of the 5-year term in the first year and slowly recovered to full utilization in year four and five. Third-party operators also experienced lower demands because of market conditions at the sawmills. Poplar supply was affected in year three because of market conditions and in year four because of a labour dispute.

Shortfalls for actual versus planned can be attributed to low demand during the plan term because of poor market conditions as well as labour disputes. Abitibi experienced good market opportunities during the first three years of the plan term. The fourth year was affected by a major labour dispute at the Iroquois Falls mill and harvest operations were curtailed for six months. Poplar targets were not met. During the first two years there was a reduced demand for poplar for the OSB market. Operations for year two and three were reduced because of an on-going negotiation regarding a Remote Tourism Strategy for the Cochrane District. By year four an agreement had been reached in the Two Peak area, which allowed Norbord to operate in that area.

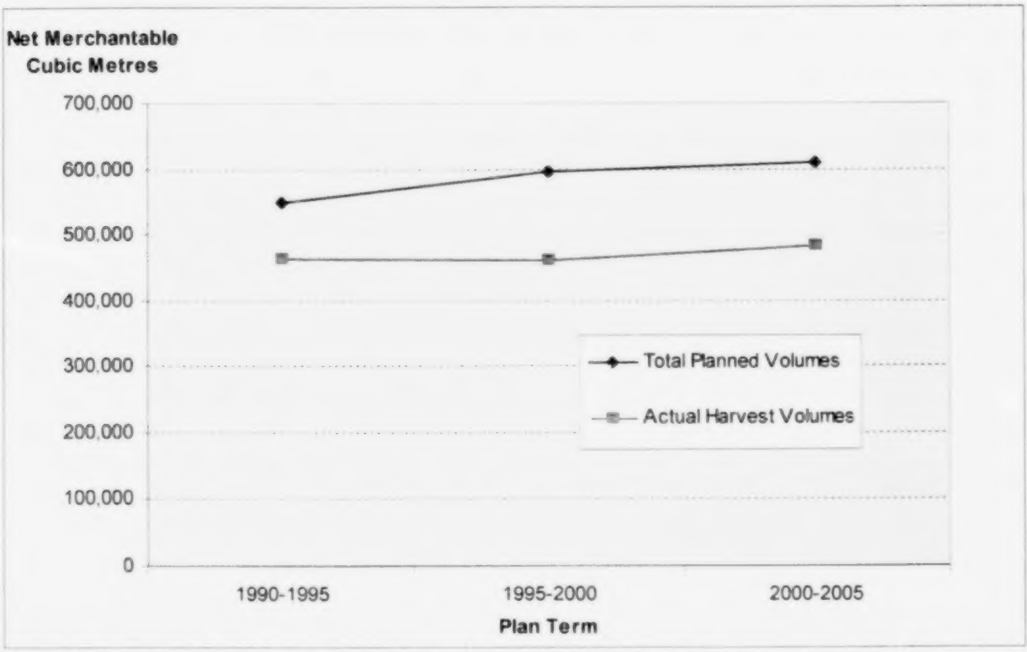


FIGURE 3A: SUMMARY OF ACTUAL VERSUS PLANNED HARVEST VOLUMES FOR IFN

Considering all of the non-timber factors, which now affect the allocated harvest, the 1995 and 2000 plans indicate that sustainable levels have been established for conifer and poplar forest units. Traditionally, mill requirements have not reached the allowable harvest levels in previous plans. However, with the lower but stable AHA levels, utilization rates will meet these levels both for conifer and poplar.

Iroquois Falls South:

An objective in previous plan terms was to ensure the availability of a sustained and regulated volume of quality fibre over the period of the plan. Another objective proposed the optimum utilization of fibre from the stands allocated for harvesting. The annual allowable cut for the 1989 term was 2,342 ha with 126,388 m3 of conifer and 49,224 m^3 of hardwood. Utilization of the MAD was at 63% of available area for all forest units and at 73% for conifer stands and 46% for hardwood stands.

By comparison, the 1991 plan included a modified objective of ensuring the availability of a sustained and regulated volume of marketable fibre on a sustained yield basis for the third party licensee (Kenogami sawmill). A key difference was the look forward into the future to ensure that the supply was sustainable well beyond the current term of the plan. Doing so caused a significant drop in the MAD for the 1991 plan and for subsequent terms.

The MAD for the 1991 term was 1,446 ha with 89,014 m3 of conifer and 35,440 m3 of hardwood. Utilization was at 95% of available area for all forest units, conifer rose to 104% from 73% while hardwood had risen to 73% from 46% in the previous term. The 39% reduction in area from the 1989 term is attributable to normal levels of harvest (versus accelerated) and increased areas removed for "areas of concern".

Management objectives in 1989 included an "oldest first" philosophy while maximizing (accelerated AAC) the allowable cut to reduce the amount of over-mature timber on the limit. There was no plan to maintain any old growth for wildlife habitat purposes. Also there was an objective to convert the less desirable forest units, such as, balsam fir, to spruce forest units.

More recent plans (i.e. 1996 and 2000) include the following objectives: maintain all forest units at present levels, address the concerns of other users and other uses and harvest at normal sustainable levels. The levels of allowable harvest are 1,517 ha for 1996 and 1,465 ha for 2000 for all forest units. Even though the landbase has gone up for the 2000 plan, the AHA has gone down as a result of the need to satisfy other stakeholders needs.

Planned conifer volumes show a decrease between the 1990 TMP and the 2000 FMP of approximately 6% or 5,375 cubic metres annually. There was also a decline in the poplar working group of 6% or 2,721 cubic metres annually.

The actual conifer volumes harvested within Iroquois Falls South ranged from 130% of plan in TMP 1990 to 78% in TMP1995 and 122% in FMP 2000.

The actual hardwood volumes harvested within Iroquois Falls South ranged from 88% of plan in TMP 1990 to 60% in TMP1995 and 81% in FMP 2000.

The actual volumes for conifer species reported for the 1991-1996-plan term were 130% of the planned. This points out an underestimate of volume since the harvest area was 104% of planned. The actual volumes for hardwood species were 122% of the planned. A similar underestimate of volume also occurred here since the harvest area was 67% of planned.

The overrun of actual versus planned can be directly attributed to flaws in the volume data but also a market existed for the extra volume to be consumed. Management is on an area basis and Normick was able to market the extra conifer to itself or other locations and was also able to dispose of the extra poplar it encountered while harvesting its conifer allocations.

The actual volumes for conifer species reported for the 1996-2000 plan term were 89% of the planned. The actual volumes for conifer species were 98% of planned and hardwood species were 75% of the planned. The volume percentages are better than the area numbers in Table 3 which indicates that the inventory was underestimating volumes.

For the 1990 and 1995 TMPs the fully accelerated Maximum Allowable Depletion averaged over the first 20 years was utilized and the Balsam forest unit was targeted for maximum utilization and conversion to spruce. In the 1970's and 1980's a large proportion of the balsam fir was affected by the spruce budworm epidemic

The decline in planned volumes between 1990 and 2000 can be largely attributable to the elimination of harvest acceleration factors, which were applied previous to FMP 2000, an increase in rotations by approximately 20 years for all forest units, an increase in regeneration periods, and the application of increasing reserves The planned volumes increased significantly in the 1995 TMP mainly because of an increase in poplar and declined significantly in FMP2000.

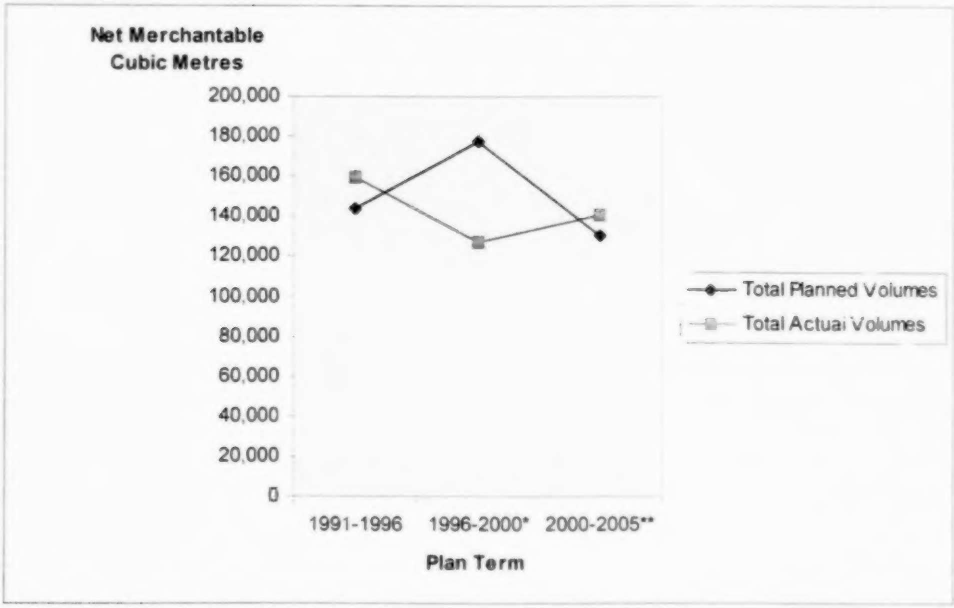


FIGURE 3B: SUMMARY OF ACTUAL VERSUS PLANNED HARVEST VOLUMES FOR IFS

Considering all of the non-timber factors that now affect the allocated harvest, the 1996 and 2000 plans indicate that sustainable levels have been established for conifer and poplar forest units. Traditionally, mill requirements had not reached the allowable harvest levels in previous plans. However, with the lower but stable AHA levels, utilization rates will meet these levels both for conifer and poplar.

SUMMARY OF PLANNED AND ACTUAL DEPLETION AREAS (TREND ANALYSIS TABLE 4):

For ease of comparison, this table is sub-divided into Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

The planned and actual harvest area figures reported in Table 4 were based on the RPFO Table 4.1, RPFO-1, or Table 4.15 for past plans. The current (2000) planned figures were based on FMP-18, while the actual harvest and natural depletion areas were based on four years of actual from AR-1 and AR-4.

Table 4 identifies harvest area by the 12 forest units for FMP2000. The past plans identify the harvest area by six forest unit / working groups. The table indicates the approximate grouping of the current forest units into the past plan forest units for comparison purposes.

Iroquois Falls North:

Planned area depletions show an increase between the 1990 TMP and the 2000 FMP of approximately 28% or 1667 hectares annually. The increase occurred mainly in the spruce and poplar working groups.

The actual depleted area within Iroquois Falls North ranged from 104% of plan in TMP 1990 to 89% in TMP1995 and 78% in FMP 2000.

Since each plan period used a different set of forest units it was difficult to develop the harvest area comparison table. The 1990 and 1995 management plans used seven forest units while the 2000 current plan expanded to twelve forest units. As described previously, the area of the Iroquois Falls North sub-unit is not directly comparable with the areas of the previous two plan terms because of an adjustment in boundaries.

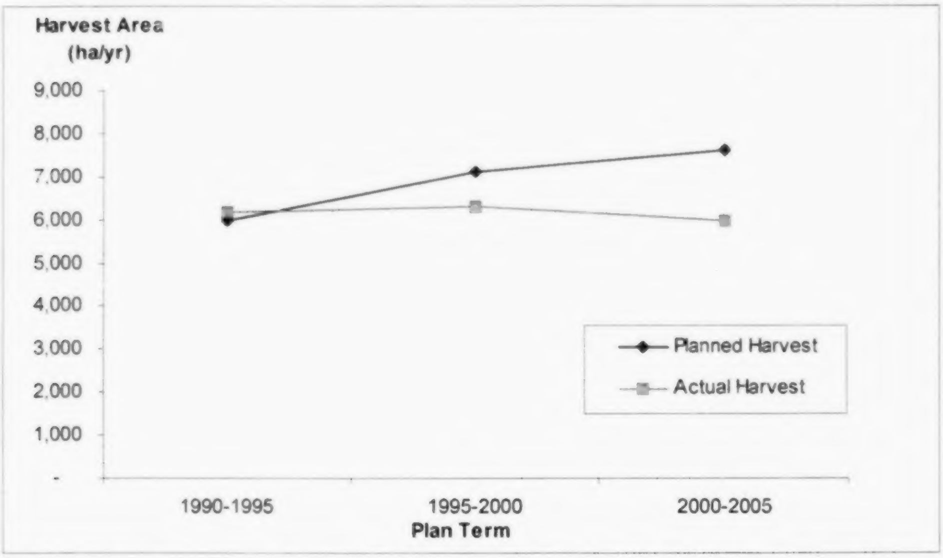


FIGURE 4A: SUMMARY OF PLANNED VERSUS ACTUAL DEPLETION AREA - IFN

During the 1990 - 1995 plan term, the actual harvest for conifer was within 97% of the planned harvest. The poplar forest unit was lower at 78% of planned. During this term, poplar veneer was in demand but demand for poplar waferboard was sporadic which tended to reduce the total poplar target.

During the 1995 - 2000 plan term, the actual harvest was 78.7% of the planned for all forest units. The average for conifer forest units was 82%. During the first three years of the plan term, the market was good for both newsprint and lumber and operations were at normal levels. A prolonged labour dispute at Abitibi-Consolidated resulted in reduced harvest activities for a good portion of the operating year. In the final year of the plan, operations returned to normal levels but a mild winter and an early spring affected operations during the winter months. The average actual versus planned for the poplar forest unit was 67%. Two factors largely reduced the amount of poplar harvested. Demand for OSB was low, especially in the first years of the plan term. Norbord operations were also affected during the first three years of the plan by the Cochrane District Remote Tourism Strategy. Planned poplar operations in the Two Peak area were delayed pending the finalization of the strategy and the development of a harvest plan, which was suitable to the remote tourist operator in the area.

The current plan (2000-2005) forecast maximum allocations in all forest units, assuming markets remained strong in newsprint, lumber, poplar veneer, and poplar OSB. The actual harvest volumes were 78% and 84% respectively for softwoods and hardwoods. During year one, First Nation blockades prevented operations on most of Iroquois Falls North for a period of six months. Other sources of wood fibre had to be tapped during this period. A second First Nation concern in the northeast corner of the Forest prevented Tembec from operating their overlapping license for the first two years of the plan term. During year three, the Tembec sawmill in Cochrane was shut down for a minimum of four months while mill upgrading took place. Some of these situations resulted in a permanent reduction in wood use. Others delayed harvesting until year five of the plan term. Because year five has not yet been tabulated the four-year average is below actual.

The actual volumes indicated for conifer in Table 3 generally indicate lower than planned volumes harvested per hectare in TMP1990 and a fairly normal volume/area relationship in TMP 1995 and FMP 2000. The yield tables are generally considered appropriate for Iroquois Falls North.

The actual volumes indicated for hardwoods (aspen) in Table 3 generally indicate volumes in line with the area, which would indicate that yield tables for aspen are reasonable.

Iroquois Falls South:

Planned area depletions show a decrease between the 1991 TMP and the 2000 FMP of approximately 12% or 206 hectares annually. The decrease occurred mainly in the lowland spruce, the birch, and the balsam fir working groups.

The actual depleted area within Iroquois Falls South ranged from 92.4% of plan in TMP 1991 to 85% in TMP1996 and 87% in FMP 2000. The depletions tended to be higher in the conifer working groups (greater than 90%) compared with the hardwoods (up to 80%).

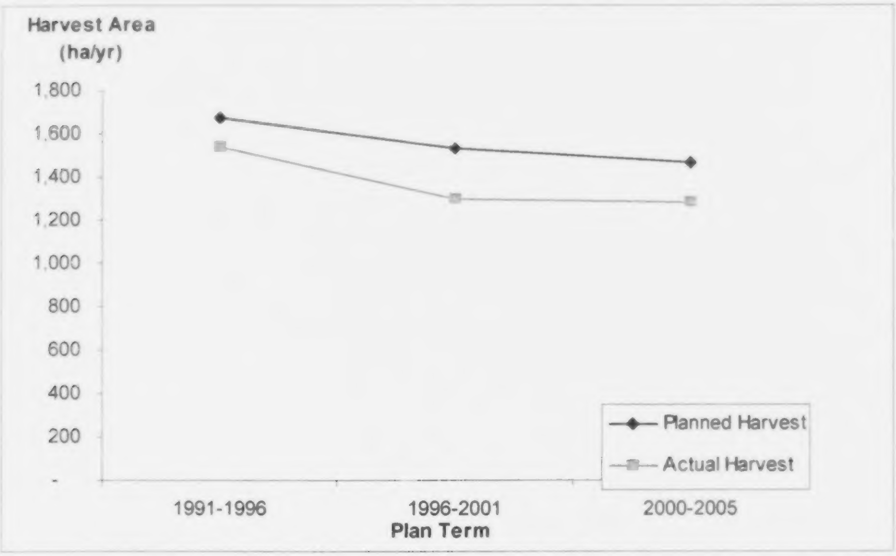


FIGURE 4B: SUMMARY OF PLANNED VERSUS ACTUAL DEPLETION AREA - IFS

The actual volumes indicated for conifer in Table 3 generally indicate higher than planned volumes harvested, which would indicate higher yields in the conifer working groups than was forecast in the yield tables.

The actual volumes indicated for hardwoods (aspen) in Table 3 generally indicate volumes in line with the area, which would indicate that yield tables for aspen are reasonable.

Since each plan period used a different set of forest units it was difficult to develop the harvest area comparison table. The 1991 and 1996 management plans used six forest units while the 2000 current plan expanded to twelve forest units. Comparisons were made by working group for the first two plans and no attempt was made to compare against the new plan because of the change in forest units and the change in area. As described previously, the area of the Iroquois Falls Forest South Subunit is not directly comparable with the areas of the previous two plan terms because of an adjustment in boundaries.

Table 4 indicates that during the nine years of the two terms, the actual area harvested for all species was very close to plan for the 1991-1996 and 1996-2000 periods.

During the 1991-1996 plan term, the actual harvest area for conifer was 104% of the planned harvest. The hardwood harvest was lower at 67% of planned. During this term, poplar veneer was in demand but demand for poplar strandboard was reduced which tended to reduce the total poplar harvest.

During the 1996-2000 plan term, the actual harvest was 77% of the planned for all forest units. The average for conifer forest units was 84%. During the first two years of the plan term, the market was good for both newsprint and lumber and operations were at normal levels. A prolonged labour dispute at Abitibi-Consolidated did not reduce harvest activities since the chips from the sawmill flowed to other destinations. Years one, two, and four resulted in the maximization of the harvest in conifer forest units. In year 3, Tembec harvested mostly on other units since they were behind in their harvest on them. They were not able to catch up completely during year 4 and as a result fell short of the 100% target.

The average actual versus planned for the poplar forest unit was 65%. Overall, this is a significant undercut but there was a significant overcut in the first year. Two factors largely contributed to the high flow of poplar from the unit in the first year of the plan. The proximity to the Grant mill in Englehart made the poplar from this unit very attractive although at the time the demand for OSB was low. The second factor was Norbord operations were affected during the first few years of the Iroquois Falls Forest plan by the Cochrane District Remote Tourism Strategy. Planned poplar operations in the Two Peak area of the Iroquois Falls Forest were delayed pending the finalization of the strategy and the development of a harvest plan that was suitable to the remote tourist operator in the area. As a result, Norbord sourced its veneer from other locations including the Iroquois Falls South Company Management Unit.

In 1997, the Malette Inc. strandboard plant in Timmins was destroyed by fire and caused an undercut in the following year because there was a surplus of poplar on the market. There was a significant undercut of poplar in the last three years of the plan although one of these years was due to the fact that Tembec did not harvest its full allocation on the unit as a result of commitments on other units. It should be noted that the supply of veneer quality poplar during this time period was limited by the quality of poplar in the stands that were actually harvested.

The current plan (2000-2005) forecast maximum allocations in all forest units, assuming markets remained strong in newsprint, lumber, poplar veneer and poplar OSB. The actual harvest volumes were 94% and 71% respectively for softwoods and hardwoods. The Tembec Kenogami mill near Kirkland Lake has had operating problems during this current term resulting in temporary closures and finally a permanent closure in 2005. Wood harvested from IFS has been directed to other mills so the conifer harvest levels have remained reasonably close to plan. The hardwood levels are undercut but there was a determined effort to complete the harvest in year five. Because year five has not yet been tabulated the four-year average is below actual.

SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (TREND ANALYSIS TABLE 5):

For ease of comparison, this table is sub-divided into i) Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and ii) Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

***Note:** Since the plans used different forest units (working groups) and different age-class groupings, some amalgamations had to be made to complete Table 5. The detailed age class information for protection forest and reserves, and the growing stock volumes were not available for the past plans. Also the boundaries of IFS and IFN changed for FMP 2000. The differences in forest units, age-class groupings, changes in planning periods between north and south and movement of area from north to south in the current plan make comparisons and discussions over the three terms difficult.*

OBJECTIVE: MAINTAIN THE PROPORTION OF MAJOR FOREST UNITS (WORKING GROUPS) THROUGH TIME.

The Iroquois Falls Forest is described as typical Claybelt boreal forest with approximately 50 % of the land base identified as lowland black spruce. Spruce forest units represent 79% of the productive forest land, poplar 11%, balsam fir 3%, jack pine 4% and white birch 2%.

Comparison of the productive forest land base composition over three planning terms; 1990, 1995 and 2000 indicates that that original seven forest units: spruce 1, spruce 2, spruce 3, balsam fir, jack pine, white birch and poplar are maintaining their percentage distribution over time (figure 3).

A continuing objective of the management planning process is to determine the status of "old" B&S and NSR. It is generally felt that subsequent regeneration surveys of these backlog areas will confirm that they meet regeneration standards.

TABLE 2: FOREST UNIT TRENDS BY OPERATING TERM

FOREST UNIT	Composition by Percent		
	1990	1995	2000
Spruce	60.0	61.4	63.6
Balsam Fir	3.6	3.2	2.8
Jack Pine	4.1	4.1	3.7
White Birch	2.3	2.1	2.1
Poplar	11.0	10.4	10.6
Other conifer	0.7	0.6	0.4
B&S/NSR	18.4	18.3	16.8
Total	100%	100%	100%
Total Production Forest (ha.)	831,952	835,031	809,291

source: Table 1

Iroquois Falls North:

Table 5 provides a summary of the available managed productive forest during the current 2000 FMP and the past 1995 and 1990 TMP's. The source of information for this table came directly from the FMP-9 for the current 2000-05 plan. Table 4.13.1 and Table 4.8.2 were utilized for the 1995-00 plan figures, while Table 4.9 and Table 4.8.2 provided the 1990-95 plan figures.

Two factors make comparison of the three five-year terms difficult. First, the area of the Iroquois Falls North sub-unit for the current term is reduced from the Iroquois Falls Forest of the two previous terms. Parts of eight base maps located south of the Abitibi River, which formed part of the Iroquois Falls Forest in the previous term, are part of Iroquois Falls South sub-unit in the current term. This accounts for the difference of approximately 34,000 hectares of the current term compared to the previous term.

The second factor is the increase in forest units; the previous term used seven forest units and the current term has identified twelve. Table 5 has been adjusted to make these forest units somewhat comparable but the differences of the forest unit definitions make direct comparison impossible. For instance, the sbloc and sbloh are black spruce peatland sites, which in the previous term would have been found in black spruce 2 & 3, and not all spruce 2 & 3 are peatland sites. Similarly, the spupl in the current would normally be found in spruce 1 of the previous, however, sphmx in the current may be found in spruce 1 or poplar working group.

The summary of forest units indicates a significant movement of hectares from B&S / NSR to the 1-20 age class. The emphasis on surveying older B&S has accounted for a large increase in this trend. Older B&S have regenerated naturally to acceptable standards but were not previously surveyed. In addition, increasing numbers of artificially regenerated areas are meeting the FTG standards and are, therefore, moving into the 1-20 age class.

From the total summary, there is an increase of hectares (5%) moving from mature (101-120) to over-mature (120+). This probably relates to the black spruce peatland areas, which are more concentrated at the north end of the limit and are the least accessible. Because black spruce is able to survive to ages beyond 120, the areas to the north tend toward over-mature age classes.

A comparison of total forest unit area by age class indicates two significant trends. The significant movement of hectares from B&S to the 1-20 age class results from surveys to B&S areas which indicate that almost all B&S area are regenerating. Also NSR areas (the more recent depletions) are meeting the FTG standards and are also moving into the 1-20 age class.

At the other end of the graph, there is a significant trend to older age classes. This again is related to the spruce forest units, especially the lower sites, which are more concentrated in the 30% of the limit that is not accessible. These areas are aging on the stump. Two plan terms ago, the strategy was to calculate an accelerated MAD to harvest these areas sooner. At the present, the AHA is determined with an objective of balancing the age classes.

Iroquois Falls South:

Table 5 provides a summary of the available managed productive forest during the current 2000 FMP and the past 1996 and 1991 TMPs. The source of information for this table came directly from the FMP-9 for the current 2000-05 plan. Table 4.13.1 and Table 4.8.2 were utilized for the 1996-01 plan figures, while Table 4.9 and Table 4.8.2 provided the 1991-96 plan figures.

A comparison with the current plan (2000-2005) was not contemplated because of two factors. First, the area of the Iroquois Falls South Subunit for the current term has increased from the previous two terms. Parts of eight base maps located south of the Abitibi River, which formed part of the Iroquois Falls Forest in the previous term, have been added as part of Iroquois Falls South Subunit in the current term. The second factor is the increase in forest units; the previous terms used six forest units and the current term has identified twelve.

The summary of forest units indicates a significant movement of hectares from Fir/OC to Spruce. Most of the harvested balsam fir stands that were damaged by budworm in the 1970's have been converted to spruce plantations. Although a significant amount of B&S was reclassified as free-to-grow in preparation for the 1996-2000, the amount of B&S rose for this time period. In preparation for the 2000-2005 plan, 10,916 ha were declared FTG and the amount of B&S declined to 21,680 ha. This number is approaching the realistic range of how much B&S should be present at any particular time in a forest as a result of depletions and renewal treatments that have not yet reached FTG status.

From the total summary, for the 1996-2000 plan, there is the beginning of a movement into older age classes more reflective of the age class structure that was present in previous plans. During the 1996-2000 plan a conscious effort was made to continue this shift and build old growth on the unit. The previous provincial policy of using a maximum rotation age and managing by reducing the average age and the use of acceleration factors to achieve these goals severely depleted the old growth of the unit.

A comparison of total forest unit area by age class indicates two trends of note. The amount of B&S appeared to be declining from 1989-91 to 1991-96 and then spiked up again for 1996-2000.

Initially, the B&S declined as a result of work done by MNR to reclassify the B&S to the 1-20 yr age class and subsequent FRI updates. However the spike upward was due to a lack of funds on the part of MNR to carry out FTG surveys during the 1991-1996 period when the economy was in recession MNR funding was constrained. Although not shown in the table, this trend has been reversed for the 1996-2000 period in preparation for the 2000-2005 plan and the amount of B&S is back to the same level as for the 1991-1996 plan although the land base has increased by almost 26%. Therefore in real terms, the B&S proportion of the production forest is at an all-time low for the unit. The second trend, the shift to older age classes during the 1996-2000 term has been discussed previously.

SUMMARY OF PLANNED AND ACTUAL RENEWAL & MAINTENANCE (TREND ANALYSIS TABLE 6):

For ease of comparison, this table is sub-divided into i) Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and ii) Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

Planned and actual renewal and maintenance treatments were derived from the applicable RPFO Table 4.4 or RPFO-7 for the two past plans. The current planned came from FMP-25 while the actual came from four years (98-99, 99-00, 00-01 and 01-02) of AR-6 tables.

The planned and actual renewal program as well as the actual harvest levels by term are shown in Charts 6a (1 to 3) for Iroquois Falls North and Charts 6b (1 to 3) for Iroquois Falls South. Harvest totals are approximate to the total regeneration, i.e., the total of the natural plus artificial regeneration.

During the 1980's, the MNR phased out of renewal and the company became responsible for renewal according to the new Forest Management Agreement (FMA) on Iroquois Falls North. In contrast the MNR retained responsibility for renewal on Iroquois Falls South until the current plan term (2000–2005).

During the 1980's and into the early 1990's, intensive silviculture was the order of the day, with greater than two-thirds the actual renewal coming from artificial intensive treatments. During these previous terms, there was a program of recovery of barren and scattered areas, which had not previously received silvicultural treatment or treated areas, which had not met minimum standards. Successful herbicide treatments were limited in the early 1980's. By the mid-1980's, glyphosate (Vision) was made available for release of plantations (mid-1980's), which added a very important tool for release of spruce plantations from competition with grasses and raspberries.

The level of artificial renewal has generally declined over time as more lower cost natural regeneration alternatives were implemented in the later plan periods (1995 to present). The implementation of eco-system management and the natural disturbance guidelines has contributed to this change in strategy. As well, mechanical harvesting equipment replaced the chain saw and wheeled skidders in the late 1980's. Increasing emphasis has been placed on reducing site disturbance and protecting the advanced regeneration, which is present at harvest.

The actual renewal shortfalls in the current and previous two terms can generally be attributed to the fact that the actual harvest was below planned harvest. Chart 6a-1 (IFN) and 6b-1 (IFS) provide a comparison of actual natural versus artificial renewal. The total actual renewal is considered to be approximately equal to the total actual harvest. The assumption is that all harvested area will be renewed.

Iroquois Falls North

Renewal: In all three terms shown in the chart below, the total actual renewal is lower than the total planned renewal. This is directly related to the lower rate of harvest during each of the three terms. During the 1990-1995 term, the proportion of artificial regeneration maintained a level of 60% of the total regeneration. This was close to plan and represented a continuation of the increased artificial regeneration program of the 1980's. The emphasis during this term and previous terms was to renew the large amounts of backlog areas, which had accumulated over time.

The 1995 FMP and the 2000 FMP reversed the artificial regeneration trend. Generally all backlogged areas had been renewed and the emphasis was on recently harvested areas. The planned split of artificial to natural was one-third to two-thirds. This is considered normal in the Clay Belt where spruce working groups are represented by a minimum of 50% lowland black spruce, which are conducive to natural regeneration. In addition the increased utilization of aspen stands resulted in increased natural regeneration to aspen.

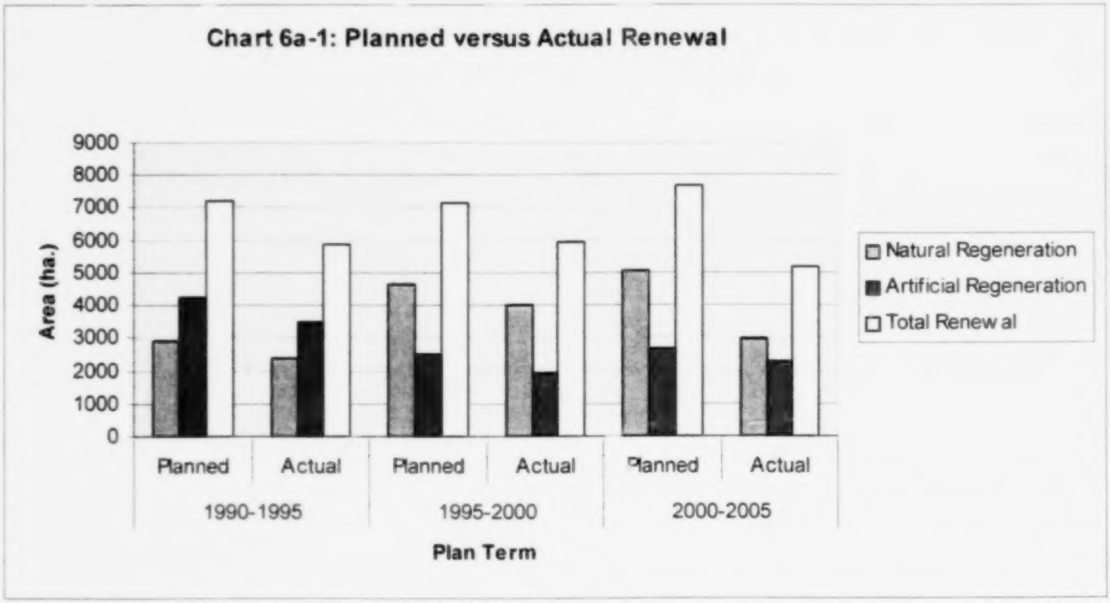


FIGURE 5A: RENEWAL - IFN

The per cent actual artificial regeneration for the 1995 term was 32% of total regeneration compared with a planned 35% and the per cent actual for the 2000 term was 43% compared with a plan of 35%.

The 1990-95 planned and actual cuts were all identified as "clearcut". During the 1990-95 term, careful logging trials were being conducted which led to three cut systems in the next term.

Natural Regeneration:

For the 1995-00 operating term, three cut regimes were identified; *clear cut – CLAAG* (traditional cut with careful logging around advanced growth), *clearcut – CS^3* (corridor selection silvicultural system) which generally applied to lowland black spruce – cut stems greater than 12 cm., and an un-even-aged cut, *selection cut – ECS^3* (enhanced corridor selection silvicultural system) which also applied to black spruce lowland – cut stems greater than 15 cm.). The ECS^3 tended toward an all-aged, all-sized black spruce lowland forest structure.

The current term has combined the CS^3 and ECS^3 into one definition, *clearcut – HARP* (harvest with regeneration protection). Although the new Silvicultural Guides include HARP as a cutting technique, it has been categorized as an even-aged cut. Abitibi believes HARP is an all-aged, all-sized system but for this plan term it will be part of the even-aged system because of the MNR definition.

Planting:

During term one (1990-95), actual areas planted were 84% of the planned, term two (1995-2000) it was 86% and for the current term (2000-2005) it was 86%. Considering that actual harvests were 104%, 89% and 78% respectively for the three terms, the actual planting program was well within planned parameters.

The planting program on the IFF reached a maximum in the 1980's (at almost 8.0 million trees annually) at a time when there was considerable backlog area to treat. At that time, the split between natural and artificial silvicultural techniques was approximately one-third natural, two-thirds artificial. More recent harvesting techniques (careful logging) have decreased the amount of available planting area. As operations move north, there is an increase in black spruce lowland sites, which regenerate naturally. The present split is approximately two-thirds natural and one-third artificial.

Seeding:

Direct seeding in the first term was 86% of planned but declined to 33% of planned in the second term. Surveys have indicated that direct seeding with black spruce has not appreciably increased the success of areas which otherwise renew naturally. For the current term (2000-2005), there is no direct seeding target.

Site preparation:

There are two major forms of site preparation on the Iroquois Falls Forest: winter shear blade is carried out under frost conditions on all clay and peatland sites to minimize site disturbance while removing slash and competition; and disk trenching takes place on sandy sites in the summer to remove thick duff layers for subsequent planting to jack pine. The TMP term 1990 indicates that 55% of plantable sites would be site prepared. Approximately 67% was actually site prepared. The TMP 1995 term proposed 54% while the actual was reduced to 35%. The FMP term proposed 43% while the actual was 32%. The reduction of site preparation has taken place entirely on the spruce sites. The reduction has

occurred for a number of reasons: the type of harvesting pattern where harvesters use travel corridors essentially prepares these corridors for subsequent planting without further preparation; and in many cases site preparation on upland clay sites results in creating severe competition in a different form; namely, grass and raspberry competition.

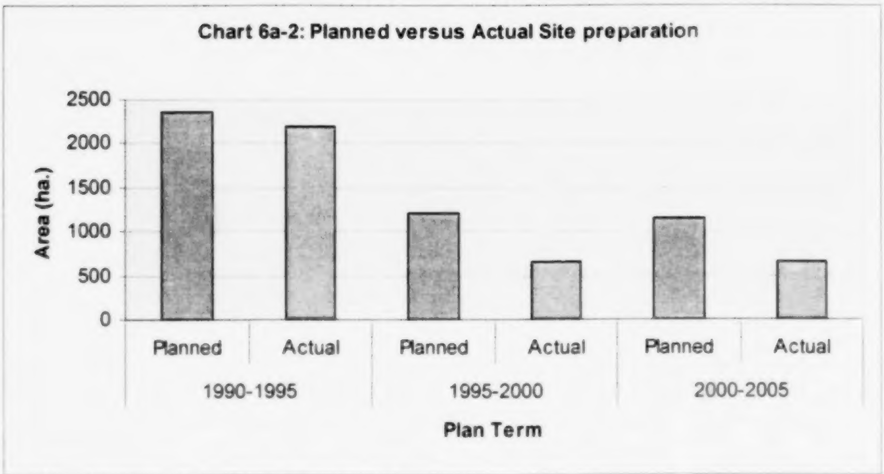


FIGURE 5B: SITE PREPARATION - IFN

Tending:

The aerial herbicide release program consists of releasing naturally regenerating black spruce from competition from alder using 2,4-D and releasing planted trees from competing vegetation using glyphosate. Up to 1990, an expanded program of herbicide was implemented to treat large areas of backlog. The TMP 1990 term proposed a continuing program of catch-up but in reality the proposed treatments were for current programs. The TMP 1990 term reduced the amount of herbicide used to 56% of proposed at 3359 hectares. During the next two additional terms, this amount has remained relatively constant at just over 3000 hectares. The actual program has resulted in slightly over plan at 108% and 116%.

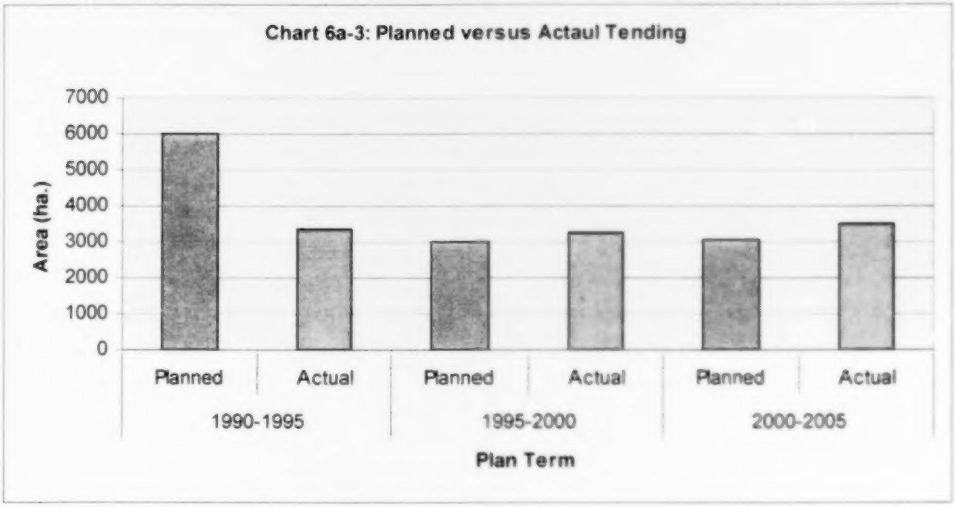


FIGURE 5C: TENDING - IFN

Iroquois Falls South

Renewal:

In all three terms shown in the chart below, the total actual renewal is lower than the total planned renewal. This is directly related to the lower rate of harvest during each of the three terms. Term 1991 and 1996 were 73% and 64% respectively. Term 2005 is at 87% after four years. During the 1991-1996 term, the proportion of artificial regeneration was 36% compared to a plan of 64%. The Report of Past Operations describes a change in strategy during this term. Of the aspen forest unit, approximately 1,790 hectares was regenerated naturally to aspen. The natural regeneration of white birch was relied upon for 886 ha. Another significant source of natural regeneration was in the spruce working group where the seed tree system and careful logging techniques were used. Approximately 545 hectares were regenerated naturally to black spruce using the block seed tree method. An estimated 1,631 hectares in the spruce working group were carefully logged to protect the natural regeneration and advanced growth. Finally 202 hectares from the balsam fir and other conifer forest unit was carefully logged and allowed to regenerate naturally. Overall, the natural regeneration figures were much higher than the planned figures because of the increase in careful logging activities and the abundant coppice regeneration in the hardwood forest units.

During the 1991-96 term, serious funding constraints were placed on MNR. Renewal had been planned to be primarily planting with some seed tree cutting, direct seeding and leave for natural. As a result of the funding constraints, planting was two thirds of that forecast and renewal by leaving for natural doubled. Site preparation was even more severely affected with a reduction of 87%. A great deal of area had to be planted without site preparation. The aerial tending program was reduced by 77%.

Data for the 1996-2000 period indicates the following. Significantly less area was left for natural regeneration many due to a reduced harvest level (650 ha actual vs. 929 ha planned - annual). Artificial regeneration was similarly reduced for the same reasons but not to the same extent (528 ha actual vs. 562 ha planned – annual). Site preparation was severely reduced to the reduced harvest level but also due to a change in philosophy about the need to carry out site preparation (174 ha actual vs. 605 ha planned). Planting area without site preparation is becoming a more common practice and plantation results in most areas appear to be just as good as on site prepared ground. Site preparation will be used mostly where soil exposure is required or where an excessive amount debris exists. The proposed prescribed burn was not carried out because of escalating costs and mechanical site preparation was done on the chosen site instead. The aerial tending target was significantly overachieved (963 ha actual vs. 414 ha proposed). This is a result of the unit being taken over by Abitibi and assessment work carried out by Tembec that showed there was a significant area of renewed forest that just need to be herbicided in order for it to be eligible to be reclassified as free-to-grow.

The 1996 TMP and the 2000 FMP continued with the artificial regeneration trend of approximately one-third compared with two-thirds natural regeneration.

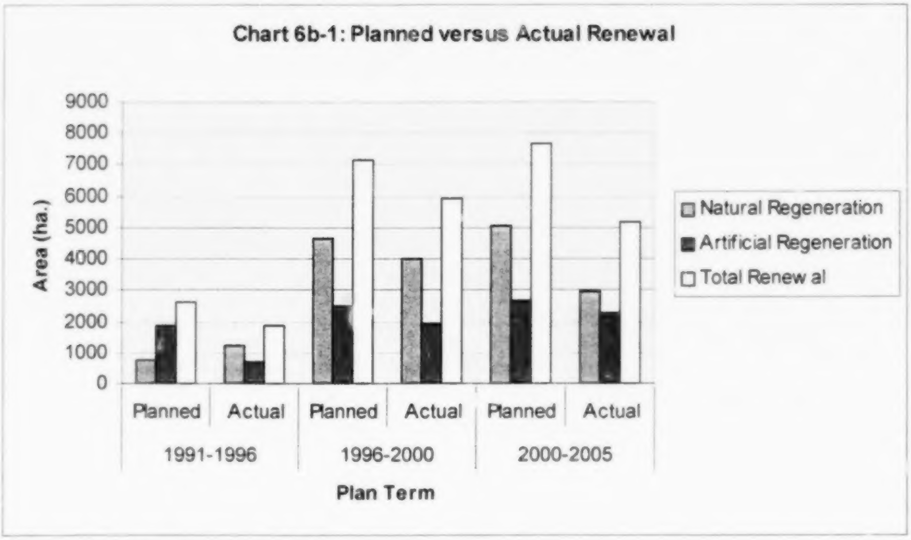


FIGURE 6A: RENEWAL - IFS

The percent actual artificial regeneration for the 1996 term was 54% compared with a planned 39% and the percent actual for the 2000 term was 32% compared with a plan of 34%.

Site preparation:

There are two major forms of site preparation on the Iroquois Falls Forest: winter shear blade is carried out under frost conditions on all clay and peatland sites to minimize site disturbance while removing slash and competition; and disk trenching takes place on sandy sites in the summer to remove thick duff layers for subsequent planting to jack pine. The TMP term 1991 indicates that 89% of plantable sites would be site prepared. Approximately 40% was actually site prepared. This is a direct result of the much higher than planned natural regeneration program where site preparation was not required. The TMP 1996 term proposed virtually 100% site preparation while the actual was reduced to 33%. The FMP 2000 term proposed 100% while the actual was 52%. The reduction of site preparation has taken place entirely on the spruce sites. The reduction has occurred for a number of reasons: the type of harvesting pattern where harvesters use travel corridors essentially prepares these corridors for subsequent planting without further preparation; and in many cases site preparation on upland clay sites results in creating severe competition in a different form; namely, grass and raspberry competition.

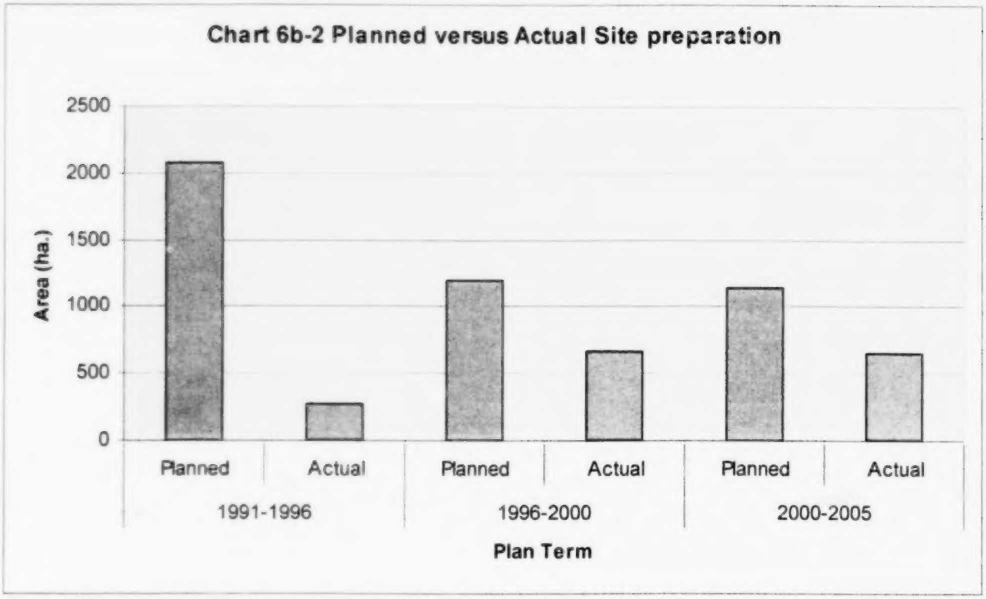


FIGURE 6B: SITE PREPARATION - IFS

Tending:

The aerial herbicide release program consists of releasing naturally regenerating black spruce from competition from alder using 2,4-D and releasing planted trees from competing vegetation using glyphosate. Up to 1991, an expanded program of herbicide was implemented to treat large areas of backlog. The TMP 1991 term proposed a continuing program of catch-up but in reality the proposed treatments were for current programs. The TMP 1991 term reduced the amount of herbicide used to 23% of proposed at 408 hectares. During the next term, the amount planned was reduced to 408 hectares annually, while the actual was more than double at 963 hectares. The FMP2000 proposed a more stable 674 hectares annually while the actual was 43%. Two successive years of exceptionally wet weather during the spray season resulted in no application of herbicide within IFS. The areas proposed do require herbicide release and this will be carried out in the first year of the new plan, FMP 2005.

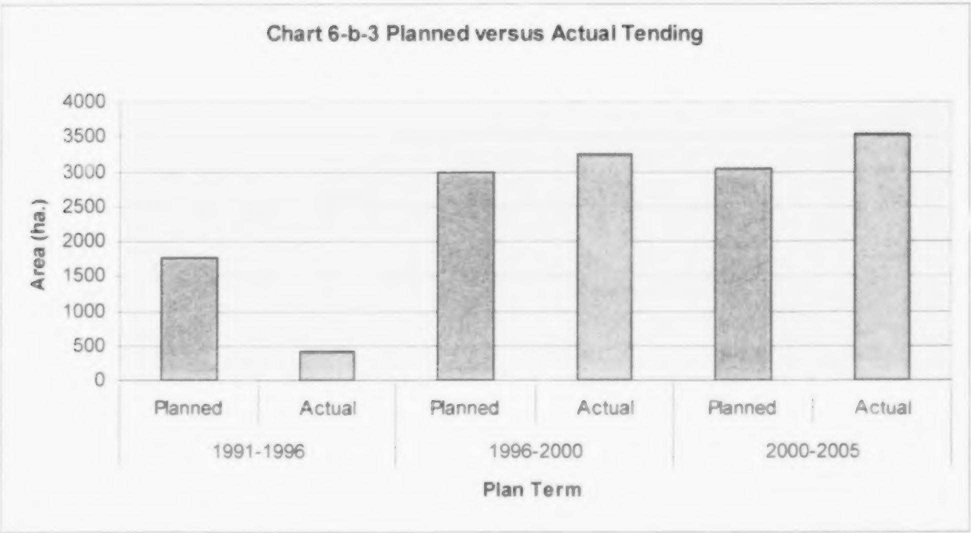


FIGURE 6C: TENDING - IFS

HARVESTED AREA SUCCESSFULLY REGENERATED (TREND ANALYSIS TABLE 7):

Table 7a and Table 7b – Annual Harvest Area Successfully Regenerated:

For ease of comparison, this table is sub-divided into, Iroquois Falls North (previous to FMP 2000 this was FMA 500200, Iroquois Falls Forest) and Iroquois Falls South (previous to FMP2000, this was the Iroquois Falls South Company License).

The harvested area successfully regenerated is a key measure of the forest condition on the Iroquois Falls Forest. This Trend Analysis includes all areas harvested between 1990 and 1995 only. Proper completion of this table required silviculture activities, mapping and record keeping systems that maintained individual silviculture records for each particular site harvested from 1990 to 1995. This was not available based on the RPFO information available for the past plan periods as the new requirements were only outlined in the new FMPM in 1996 and were implemented in the current plan term (2000-2005). Therefore the analysis of annual harvest areas successfully regenerated was completed as follows.

Table 7a (IFN) and 7b (IFS) reports on the actual regeneration assessments that were completed in each TMP or FMP term, regardless of the year of harvest. These figures are not based on areas harvested during a specific 5-year term. Three plan periods were included: 1990-95, 1995-00 and 2000-05.

It is important to note that the year of harvest and the regeneration assessments are not necessarily directly comparable. All figures are reported as annual averages.

Table 7a and 7b– Annual Areas Reported as Successfully Regenerated: The 1990-95 regeneration surveys were based on the 1990-95 final Table 4.7. The 1995-00 regeneration surveys were based on the 1995-00 RPFO-8, and the 2000-05 regeneration surveys were based on four years of actual from the 2000-05 AR-7 tables. The reported areas are related to the actual surveys that were completed during the period as opposed to the specific harvest areas during the period.

Iroquois Falls North:

The average annual harvest for Iroquois Falls North is indicated below by plan term:

TABLE 3A: FTG SURVEYS – IFN

Plan Term	Average Annual Harvest Area (Ha.)	Total Area Surveyed	Total Area Successfully Regenerated
1990-1995	6,215	6,824	6,728
1995-2000	6,305	7,280	6,878
2000-2005 (4 years)	5,988	4,420	4,251
Total (14 years):	18,508	18,524	17,857

The table above indicates that the survey program is keeping pace with the harvest levels over the plan terms. The total area surveyed for the term 1990-1995 represented 110% of the average annual harvest area. The total area surveyed for the term 1995-2000 represented 115% of the average annual harvest area. The areas surveyed do not relate directly with the harvest areas, however, the general trend indicates that a high percentage of the area surveyed is meeting regeneration standards (99% and 94% respectively).

The average annual survey level for the current term (2000-2005) is well below the average annual harvest level (74%) for the following reasons:

- During the previous two terms (1990-1995 and 1995-2000), harvest allocations were made in the northeast and the northwest of the limit where the percent of lowland black spruce harvest was at a much higher level than previous plans.

- FTG surveys of lowland black spruce were delayed for the following reasons:
    - The FTG period for black spruce peatland is much longer than upland areas (minimum 11 and up to 20 years), therefore, there were delayed surveys,
    - Many areas are roadless (winter only) and had to be surveyed by helicopter, which was scheduled for the last year of the current plan but was delayed because survey personnel were busy preparing a new FMP.
- Additional surveys will be carried out during the first two years of the new FMP (2005).

Of the areas surveyed during the current term (2000-2005), 96% has met regeneration standards.

Overall, during three plan terms, 100% of the average annual harvest was surveyed with a FTG success rate of 97%.

Iroquois Falls South:

The average annual harvest for Iroquois Falls South is indicated below by plan term:

TABLE 3B: FTG SURVEYS – IFS

Plan term	Average Annual Harvest Area (Ha.)	Total Area Surveyed	Total Area Successfully Regenerated
1991-1996	1,545	487	446
1996-2000	1,285	2,937	2,729
2000-2005 (4 years)	1,280	2,275	1,853
Total (13 years):	4,110	5,699	5,028

The table for Iroquois Falls South indicates a serious lack of FTG surveys in term 1 (1991-1996) at only 32% of the average annual harvest level. This was a direct result of a lack of funding during the period when the MNR was directly responsible for the program. However, ninety-two percent of the area surveyed met regeneration standards. During term 2, the level of survey increased substantially to 229% of the average annual harvest level and 93%

met regeneration standards. During the current term, 178% of the average annual harvest was surveyed and 81% of the surveyed areas were successful. The majority of the area that did not reach FTG required herbicide release from competition and this has been scheduled.

The surveyed level over three terms (13 years) indicates that the survey program is keeping pace with the harvest levels. The areas surveyed do not relate directly with the harvest areas, however, the general trend indicates that a high percentage of the area surveyed is meeting regeneration standards). The majority of the blocks not meeting standards were identified as requiring herbicide release.

Overall, during three plan terms, 139% of the average annual harvest was surveyed with a FTG success rate of 88%.

SUMMARY OF RESULTS OF REGENERATION SUCCESS FOR IROQUOIS FALLS NORTH AND SOUTH:

Although, this is not a definitive analysis for the 1990-95 harvest areas for IFN and for 1991-1996 for IFS, overall the results indicate good regeneration success and reflect that the suite of silvicultural practices are being successfully implemented on the Iroquois Falls Forest.

It is apparent that it will take several years of recording regeneration assessments by harvest area according to the new FMPM requirements before specific harvest areas during a specific planning term can be reported on fully. Because record keeping for depleted areas, silvicultural areas and FTG declarations have been maintained separately, it is impossible at this time to follow a five-year depletion record, stand by stand through to the FTG declaration.

REGENERATION SUCCESS:

The following general trend statements for forest renewal on the IFF are made based on Abitibi's experience in forest renewal since 1980.

- **Logging methods:** the fell-bunch / clam-bunk skid / delimb at roadside logging method produces a cutting pattern of machine travel corridors alternating with no-travel corridors. The result is increased residuals on site after harvest in the no-travel corridors. This results in increased areas of natural regeneration and/or areas of natural plus planting fill-in.

Black spruce peatland sites:

Renewal by natural regeneration - pure black spruce (stands with >70% black spruce with some component of tamarack and balsam fir). Black spruce peatland sites regenerate successfully to black spruce almost without fail from black spruce advanced growth, black spruce residuals and natural seeding.

- CLAAG (careful logging around advanced growth) is predicted on up to 80% of lowland sites with a renewal period of up to 12 years.
- HARP (harvest with regeneration protection) an enhanced method of careful logging is prescribed for up to 20% of the black spruce peatland sites, results in an instantaneous FTG stand which can gain between 20 and 60 years on a black spruce rotation.

Pure poplar:

- The preferred treatment is renewal by natural regeneration (>70% poplar). Upland clay sites regenerating by root suckering to pure poplar. Areas, which do not have sufficient natural regeneration, will be planted.

Pure jack pine:

- Site prepare and plant to pure jack pine.

Spruce upland:

- Renewal by site preparation, planting and tending. Pure spruce upland artificially renewed to pure spruce upland.

Mixed conifer upland and mixed conifer / hardwood:

- Renewal by natural or site prepare plant and tend. Maintain a mixedwood component.

Interpretation of Free-to Grow Declaration:

As indicated in table 7, ninety-six percent of the area surveyed in term 1 (1990), term 2 (1995) and current term within IFN and eighty-eight percent of the area surveyed in term 1 (1991), term2 (1996) and the current term within IFS have been declared FTG. The trend indicated is that harvested areas are meeting FTG standards at 7 to 12 years after harvest.

- **SUMMARY**

ANALYSIS AND TRENDS: IROQUOIS FALLS FOREST (IFN & IFS)

1. What is the extent of area under management (Table 1);

   - The total production forest for the entire Iroquois Falls Forest (IFN & IFS) for FMP 2005 is 809,291 hectares.
   - This is a reduction of 2.7% compared with previous two terms largely attributable to the reductions associated with OLL.
   - The depiction of excessive barren and scattered area will be largely corrected with ongoing surveys and the completion of the new inventory in 2007.
   - Currently an assessment coverage within the GIS system is in place that accounts for all barren and scattered area and all areas scheduled for future assessments.
   - With no additional losses to the landbase, the Iroquois Falls Forest should be positive in terms of the forest's ability to supply the desired benefits over time.

2. What are the forest units used to describe the IFF (Table 2);

   - The number of forest units for the IFF for FMP 2000 has increased to twelve from the seven identified in previous terms.
   - The forest units increased in complexity and moved from simple working group and site class amalgamations to complex groupings based on working groups, species composition and site class.
   - The forest units were subdivided into pure, mixedwood, and incidental forest units based on species composition.
   - Pure forest units included popur (poplar), bwpur (birch), sbloc (spruce lowland CLAAG), sbloh (spruce lowland HARP), spupl (spruce upland), and pjpur (jackpine).
   - Mixedwood forest units included sphmx (spruce hardwood mixed), pjmix (jack pine mixed), bfpmx (balsam fir pure and mixed), bwmix (white birch mixed), pomix (poplar mixed) and othco (cedar and larch).
   - Although there is increased complexity in the forest units, they can be summarized relatively easily with the MNR Northeast Region standard forest units.

3. What are the planned and actual harvest volumes (Table 3);

   - The actual volumes over the three terms (two previous and current) vary between 75% and 85% of plan.
   - Earlier plans advocated accelerated cuts to reduce overmature age classes and the accelerated levels were never attained.
   - Earlier plans advocated stand conversion from less-desirable to preferred forest units and the undesirable units such as balsam fir were proposed as liquidation harvest. These proposed harvest levels were seldom reached.
   - current plan advocates maintaining existing levels of all forest units and therefore normal (versus accelerated) volume allocation.
   - Historically actual volumes harvested during a five-year term have been lower than plan for a number of additional reasons:
     - There is a tendency to delay some operations until later in a plan term: licensees concentrate in management units, which are in the final years of the plan term.
     - Various reasons usually associated with sawmill and newsprint mill operations – downtime, species availability etc.
     - Often better more accessible sites are allocated in the first years and poor sites are left to later years and may not be harvested.
   - The development of yield tables which more accurately reflect the forest, aid in establishing a level of harvest which is constant, predictable and attainable.

4. What are the planned and actual harvest areas (Table 4);

   - Actual harvest area over three terms vary between 78 and 104% of plan.
   - The actual depleted area within Iroquois Falls North ranged from 104% of plan in TMP 1990 to 89% in TMP1995 and 78% in FMP 2000.
   - The actual depleted area within Iroquois Falls South ranged from 92.4% of plan in TMP 1991 to 85% in TMP1996 and 87% in FMP 2000. The depletions tended to be higher in the conifer working groups (greater than 90%) compared with the hardwoods (up to 80%).

- Table 4 identifies harvest area by the 12 forest units for FMP2000. The past plans identify the harvest area by six forest unit / working groups. The table indicates the approximate grouping of the current forest units into the past plan forest units for comparison purposes.
- Since each plan term used a different set of forest units it was difficult to develop the harvest area comparison table.
- In addition, the area of the Iroquois Falls North sub-unit is not directly comparable with the areas of the previous two plan terms because of an adjustment in boundaries.

5. What are the forest unit area summaries (Table 5);

   - Comparison of the productive forest land base composition over three planning terms; 1990, 1995 and 2000 indicates that that original seven forest units; spruce 1, spruce 2, spruce 3, balsam fir, jack pine, white birch and poplar are maintaining their percentage distribution over time.

A continuing objective is to determine the status of "old" B&S and NSR. It is generally felt that subsequent regeneration surveys of these backlog areas will confirm that they meet regeneration standards and the present level of 16.8% B&S will be lowered to a constant level of recent depletion of 10%.

6. What are the planned and actual renewal and maintenance areas (Table 6);

   - The actual regeneration levels have kept pace with the actual harvest.
   - The FMA holder (Abitibi-Consolidated) has been responsible for the silvicultural program since the inception of the FMA in 1980 within the original Iroquois Falls Forest (IFN).
   - The MNR has been responsible for the silvicultural program within the Iroquois Falls South Company License (IFS) until the inception of the SFL in 2000.
   - Natural regeneration now represents approximately two-thirds of renewal – the largest contribution in the lowland spruce forest unit and the pure aspen forest unit.
   - Artificial regeneration now represents one-third of renewal – plant spruce in upland spruce and mixedwood forest units. Plant jack pine in the jack pine forest unit.
   - Site prepare jack pine sites using Disc Trenchers in sandy sites.

- Review the winter site preparation program and continue to utilize on recommended sites.
- Maximize the planting along equipment travel ways without site preparation.
- Continue with 2,4-D and glyphosate release treatments with an objective of fine-tuning the proposed areas; i.e., reduce concentrations where feasible and reduce applications by fine-tuning applications within blocks.

7. What percentage of the harvested areas, have been successfully regenerated (Table 7a, 7b).

- Successful regeneration of depleted areas varies between 88 (IFS) and 96% (IFN).
- Although, this is not a definitive analysis for the 1990-95 harvest areas for IFN and for 1991-1996 for IFS, overall the results indicate good regeneration success and reflect that the suite of silvicultural practices are being successfully implemented on the Iroquois Falls Forest.
- It is apparent that it will take several terms of recording regeneration assessments by harvest area according to the new FMPM requirements before specific harvest areas during a specific planning term can be reported on fully, because record keeping for depleted areas, silvicultural areas and FTG declarations have been maintained separately, it is impossible at this time to follow a five-year depletion record, stand by stand through to the FTG declaration.

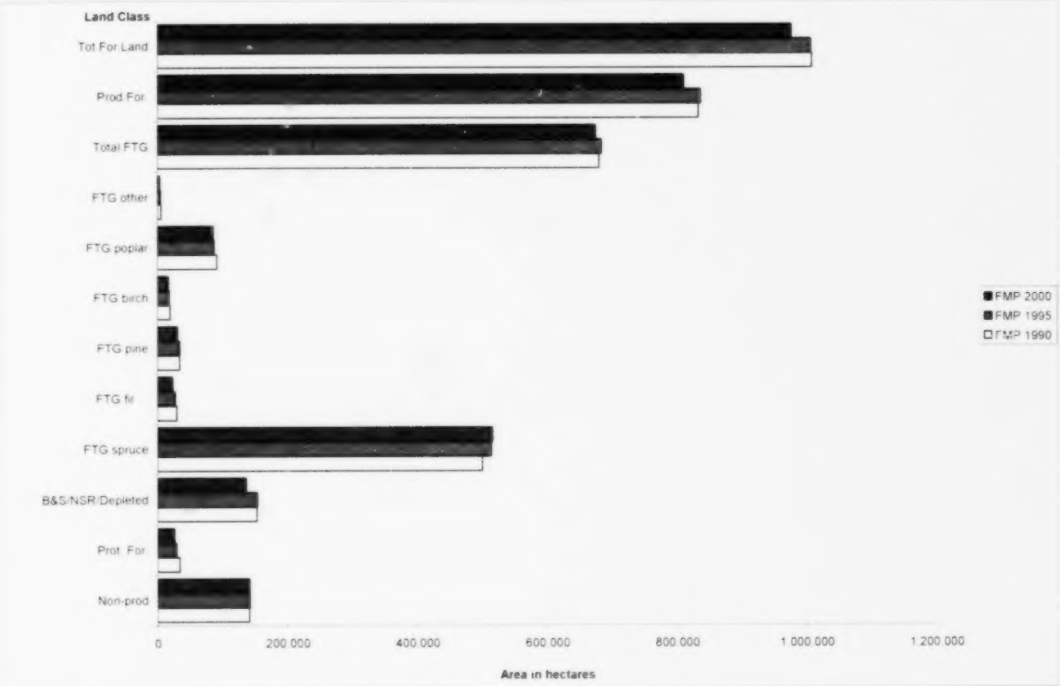
TREND ANALYSIS TABLES

Summary of Total Area under Management	Trend Analysis Table 1
Description of Forest Units	Trend Analysis Table 2
Summary of Planned and Actual Harvest Volumes	Trend Analysis Table 3
Summary of Planned and Actual Depletion Area	Trend Analysis Table 4
Summary of Managed Productive Forest by Forest Unit	Trend Analysis Table 5
Summary of Planned and Actual Renewal & Maintenance	Trend Analysis Table 6
Harvested Area Successfully Regenerated	Trend Analysis Table 7

Table 1 - Total Area Under Management - Iroquois Falls Forest

Past and Current Plans - Crown Managed (excluding parks and OLL)

Land Class	Past Plan FMP 1990 (Major Inventory 1986) (ha.)	Past Plan FMP 1995 (Inventory Update 1993) (ha.)	Current FMP 2000 (Inventory Update 1998) (ha.)
Water	128,002	122,404	113,910
Non-Forested	4,827	4,838	3,389
Forested			
Non-productive	140,799	141,319	140,645
Protection Forest	33,867	28,640	25,411
Production Forest			
B&S/NSR/Depleted	152,676	152,900	135,941
Working Group*			
FTG spruce	499,445	512,845	514,835
FTG fir	29,556	26,582	23,013
FTG pine	34,197	33,970	30,243
FTG birch	19,280	17,390	16,694
FTG poplar	91,374	86,719	85,422
FTG other	5,424	4,625	3,143
Total FTG	679,276	682,131	673,350
Total Production Forest	831,952	835,031	809,291
Total Forested Land	1,006,618	1,004,990	975,347
Total Land Base	1,139,447	1,132,232	1,092,646



Sources: Table TMP - 4.8.2 for old plans and FMP1 and FMP2 for current plan

Table 2a: Description of Forest Units FMP 2000

Forest Unit Code		Forest Unit Name	Forest Type	Main Working Group	Site Type(s)	Silvicultural System	FRI Parameters & Criteria
Iroquois Falls Forest (IFS and IFN sub-management units)							
sbloc	01	black spruce lowland, CLAAG	conifer	spruce	**11**, 8, 12, 13, 14	clearcut - CLAAG	sb >= 6 and po+bw <= 1and la+ce <= 1 and stk > 0.6 and sc = '2', '3', or '4' or sb >= 8 and stk > 0.6 and sc = '2', '3' or '4'
sbloh	02	black spruce lowland, HARP	conifer	spruce	**11**, 9, 12, 13, 14	clearcut - HARP	sb >= 6 and po+w <= 1 and ce+la <= 1 and stk <= 0.6 and sc = '2', '3', '4', *or* sb >= 8 and stk <= 0.6 and sc = '2', '3', or '4'
spupl	03	black & white spruce upland	coniferous mixedwood	spruce	**8**, 5a, 5b, 6a, 6b, 6c, 9, 11, 12	clearcut - (claag)	sb >= 6 and sc = 'x' or '1', *or* sb+sw >= 6 and sw >= 1 and sc = '1' or 'x'
sphmx	04	spruce / hardwood mix	mixedwood	spruce	**6a, 6b, 6c**, 1, 3a, 3b, 5a, 5b, 7a, 7b, 9, 10	clearcut - (claag)	sb+sw+bf+pj >= 5, and sb+sw >= 3 and po+bw < 5 or sb+sw+bf+pj > 5, or sb+sw+bf+pj >= 5 and sb+sw < 3, or sb+sw+bf+pj = 5 & po+bw = 5
popur	05	poplar pure	hardwood	poplar	**7a, 7b, 10**	clearcut - (claag)	po >= 7
pomx	06	mixed poplar	hardwood mixedwood	poplar	**7a, 7b, 10**, 1, 3a, 3b, 6a, 6b, 6c	clearcut - (claag)	po >= 4 and po < 7 and po >= bw and sb+sw+pj+bf < 5
pjpur	07	jack pine pure	conifer	pine	**2a, 2b**, 1, 3, 4	clearcut - (claag)	pj >= 7
pjmx	08	jack pine mixed	conifer	pine	**3a, 3b, 4**, 1	clearcut - (claag)	pj >= 4 and wg = 'pj'
bwpur	09	white birch pure	hardwood	birch	**10**, 1, 7a, 7b	clearcut - (claag)	bw >= 7
bwmx	10	white birch mixed	hardwood mixedwood	birch	**6a, 6b, 6c, 10**, 1, 3a, 3b, 7a, 7b	clearcut - (claag)	bw >= 5, or wg = 'bw' and bw >= 4
bfpmx	11	balsam fir pure and mixed	coniferous mixedwood	fir	**6a, 6b, 6c, 9**, 1, 3a, 3b	clearcut - (claag)	bf >= 5, or wg = 'bf' and bf >= 4
othco	12	other conifer	conifer	other	**6a, 6b, 6c, 9, 13**, 1, 12, 14	clearcut - (claag)	ce+la >= 4 or wg = 'ce', or 'la', or 'oc'

Notes

Note 1: Sort order is by forest unit as follows: pjpur, pjmx, sbloc, sbloh, othco, popur, pomx, bfpmx, bwpur, bwmx, spupl, sphmx

Note 2: Site Types are assigned to Forest Units based on site class, species composition and stocking according to the Northern Habitat Matrix and Silvicultural Guide

Note 3: Site Types listed are from the Habitat Matrix Analysis and Silvicultural Guides - **bold** are the most representative of the forest unit

Note 4: "(claag)" - "careful logging around advanced growth", when in brackets, may occur on any site type if there is sufficient advanced growth before harvest

Note 5: "CLAAG" - as above but when indicated in capitals, is expected to occur

Note 6: "HARP" - "harvesting with regeneration protection" - is expected to occur, only occurs on lowlnd peat sites

Note 7: " Pj >= 7" means that jack pine represents 70% or more of the species composition of the stand

Note 8: SQL or AML syntax normally includes **WG** (working group) and **SC** (site class) in quotes, i.e., wg='sb' or sc='x'

Note 9: FRI Parameters - the FRI provides descriptive information by forest stand, eg., species composition (1 - 10%, 10 - 100%), stocking (amount of crown closure, 0.6 - 60%)

latest revision: Nov 30, 1999

Table 2b: Description of Forest Units TMP 1995

Forest Unit Code	Forest Unit Name	Forest Type	Main Working Group	Site Type(s)	Silvicultural System	FRI Parameters & Criteria
Iroquois Falls Forest (IFN sub-management unit)						
Sp1	spruce 1	conifer	spruce	5a, 5b, 6a, 6b, 6c, 8, 9	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= X and 1
Sp2	spruce 2	conifer	spruce	8, 9, 11, 12	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= 2
Sp3	spruce 3	conifer	spruce	9, 11, 12, 13, 14	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= 3
B	fir	conifer	fir	6a, 6b, 6c, 9, 1, 3a, 3b	clearcut	WG= balsam fir (dominant in FRI species comp) and all site classes
Pj	pine	conifer	pine	2a, 2b, 3a, 3b, 4	clearcut	WG= jack pine (dominant in FRI species comp) and all site classes
Bw	birch	hardwood	birch	6a, 6b, 6c, 10, 3a, 3b, 7a, 7b	clearcut	WG= white birch (dominant in FRI species comp) and all site classes
Po	poplar	hardwood	poplar	7a, 7b, 10, 3a, 3b, 6a, 6b, 6c	clearcut	WG= poplar (aspen &/or balsam poplar - dominant in FRI species comp) and all site classes

Table 2c: Description of Forest Units TMP 1990

Forest Unit Code	Forest Unit Name	Forest Type	Main Working Group	Site Type(s)	Silvicultural System	FRI Parameters & Criteria
Iroquois Falls Forest (IFN sub-management unit)						
Sp1	Spruce X&1	conifer	spruce	5a, 5b, 6a, 6b, 6c, 8, 9	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= X and 1
Sp2	Spruce 2	conifer	spruce	8, 9, 11, 12	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= 2
Sp3	Spruce 3	conifer	spruce	9, 11, 12, 13, 14	clearcut	WG= Sb or Sw (dominant in FRI species comp) and SC= 3
B	Balsam Fir	conifer	fir	6a, 6b, 6c, 9, 1, 3a, 3b	clearcut	WG= balsam fir (dominant in FRI species comp) and all site classes
Pj	Jack Pine	conifer	pine	2a, 2b, 3a, 3b, 4	clearcut	WG= jack pine (dominant in FRI species comp) and all site classes
Bw	White Birch	hardwood	birch	6a, 6b, 6c, 10, 3a, 3b, 7a, 7b	clearcut	WG= white birch (dominant in FRI species comp) and all site classes
Po	Poplar	hardwood	poplar	7a, 7b, 10, 3a, 3b, 6a, 6b, 6c	clearcut	WG= poplar (aspen &/or balsam poplar - dominant in FRI species comp) and all site classes

Table 3a - Summary of Planned and Actual Annual Harvest Volumes for the Original Iroquois Falls Forest (IFN sub-unit for FMP2000)

Average Planned Annual Harvest Volumes

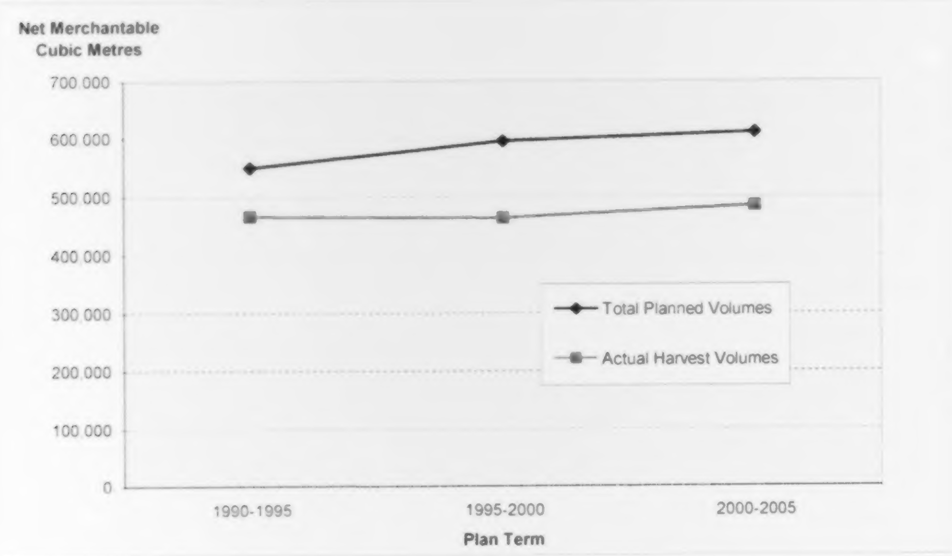
Species	Ave. Ann. Vol. (m3)		
	Previous		Current
	1990-1995	1995-2000	2000-2005
Sp	343,444	354,117	390,108
Bf	22,211	32,077	26,947
Pj	37,700	59,595	61,482
Ce		0	
La		0	
Po	146,094	149,990	131,382
Pb	0	0	
Bw	0	0	1,141
Total Planned Volumes	**549,450**	**595,779**	**611,061**

Actual Average Annual Harvest Volumes from TREES

Species	Ave. Ann. Vol. (m3)		
	Previous		Current
	1990-1995	1995-2000	2000-2005*
Sp	254,555	291,698	296,581
Bf	22,228	24,432	13,131
Pj	69,848	34,487	62,879
Ce			8
La	12		12
Po	116,974	111,718	107,204
Pb	0		0
Bw	1,843	1,071	4,165
Total Actual Volumes	**465,460**	**463,405**	**483,979**

* note 1. The volumes for the final year of term 2000/2005 are not available at this time (4-year ave. only)

Planned Versus Actual Harvest Volumes



Sources: T4.18.1 or FMP-21 for planned and RPFO-3 or Ar-3 for actual

*2000-2005 actual based on 4yr actual from AR-3

Table 3b - Summary of Planned and Actual Annual Harvest Volumes for the Iroquois Falls South Company Unit (IFS sub-unit for FMP2000)

Average Planned Annual Harvest Volumes

	Ave. Ann. Vol. (m3)		
	Previous		Current
Species	1991-1996	1996-2000*	2000-2005**
Sp	62,163	73,512	49,781
Bf	6,421	15,862	8,183
Pj	20,430	21,376	25,677
Ce	5,056	0	
La		0	
Po	35,911	63,689	46,000
Pb		0	
Bw	13,524	2,750	713
Total Planned Volumes	**143,505**	**177,189**	**130,354**

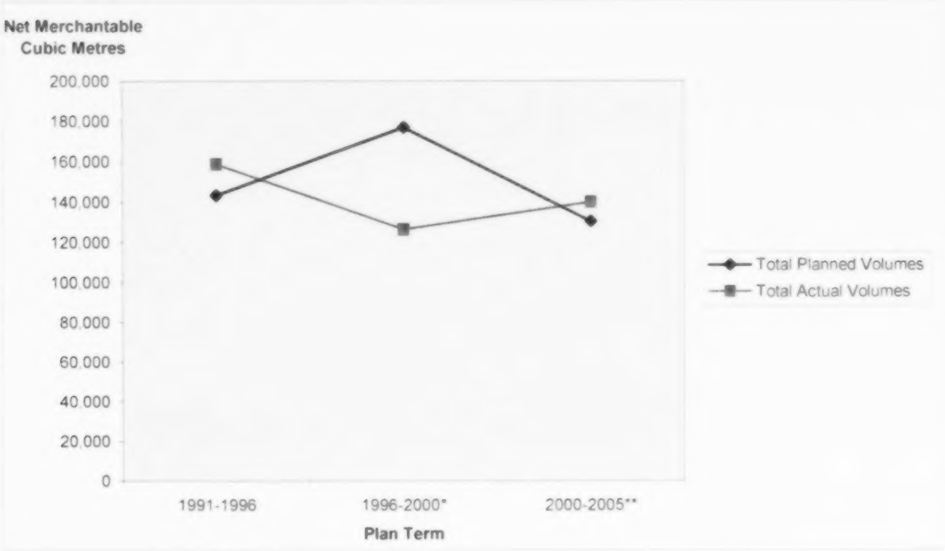
* note 1 The plan term represents 4 years only to correpond with amalgamation with IFN in 2000

Actual Average Annual Harvest Volumes from TREES

	Ave. Ann. Vol. (m3)		
	Previous		Current
Species	1991-1996	1996-2000*	2000-2005**
Sp	70,069	58,278	63,454
Bf	7,056	7,131	5,927
Pj	38,507	20,937	32,734
Ce	2		0
La	144	598	360
Po	41,862	38,728	36,696
Pb	403	0	1,071
Bw	1,113	927	
Total Actual Volumes	**159,157**	**126,599**	**140,241**

** note 2 The volumes for the final year of term 2000/2005 are not available at this time (4-year ave. only)

Planned Versus Actual Harvest Volumes



Sources: T4.18.1 or FMP-21 for planned and RPFO-3 or Ar-3 for actual

* 1996-2000 actual based on 4yr actual from AR-3

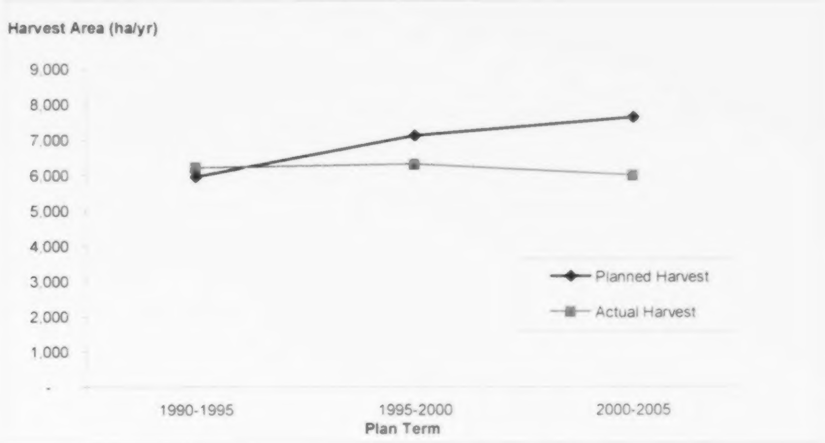
** 2000-2005 actual based on 4yr actual from AR-3

Table 4a - Summary of Planned and Actual Annual Depletion Area for the Original Iroquois Falls Forest (IFN sub-unit for FMP 2000)

		Planned Ave. Annual Harvest Area			Actual Ave. Annual Depletion Area					
		area in hectares			*area in hectares*					
		Past Plans		Current	Past Plans				Current	
Plan Term		1990-1995	1995-2000	2000-2005	1990-1995		1995-2000		2000-2005*	
Forest Unit					Harvest	Natural	Harvest	Natural	Harvest	Natural
Past Plans	**2000-2005**									
spruce 2/3	sbloc	3,140	3,425	2,419	3,275		3,410	254	1,830	-
	sbloh			1,259					1,204	-
spruce 1	spupl	1,146	1,357	1,249	1,054		1,150	151	981	-
	sphmx			887					490	-
poplar	popur	929	1,310	591	1,083		1,012	64	509	-
	pomix			505					404	-
pine	pjpur	459	435	229	427		365	-	207	-
	pjmix			149					154	-
birch	bwpur	150	152	-	169		67	-	0	-
	bwmix			142					101	-
fir	bfpmx	144	441	201	207		302	21	108	-
	othco			5					2	-
										-
Total Area		**5,969**	**7,120**	**7,636**	**6,215**	-	**6,305**	**490**	**5,988**	-

* note 1: The volumes for the final year of term 2000/2005 are not available at this time (4-year ave. only)

Planned Versus Actual Harvest Area



Sources: Planned and Actual Harvest Areas from Final RPFO Table 4.1, RPFO-1 or T4.15 for old plans and FMP-18 for new plans

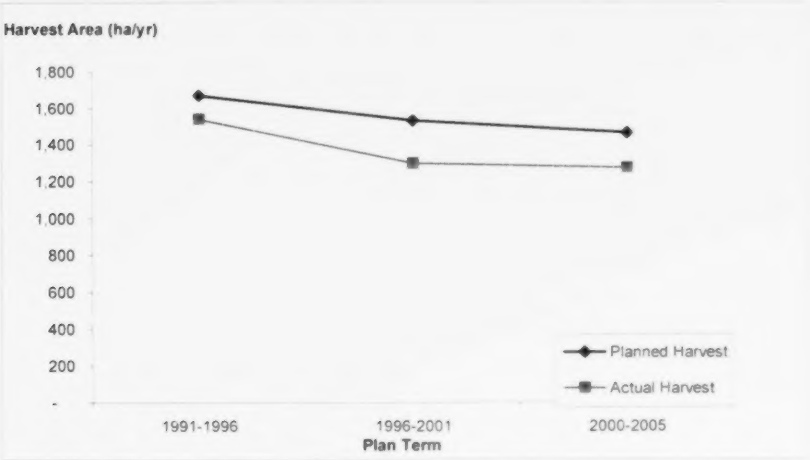
*2000-2005 actual based on 4yr actual

Table 4b - Summary of Planned and Actual Annual Harvest Area for the Iroquois Falls South Company Unit (IFS sub-unit for FMP2000)

		Planned Ave. Annual Harvest Area			Actual Ave. Annual Depletion Area					
		area in hectares			*area in hectares*					
		Past Plans		Current	Past Plans				Current	
Plan Term		**1991-1996**	**1996-2001**	**2000-2005**	**1991-1996**		**1996-2000**		**2000-2005***	
Forest Unit					**Harvest**	**Natural**	**Harvest**	**Natural**	**Harvest**	**Natural**
Past Plans	**2000-2005**									-
spruce 2/3	sbloc	164	120	14	172		149		17	-
	sbloh			70					59	-
spruce 1	spupl	629	653	330	658		582		349	-
	sphmx			467					442	-
poplar	popur	389	416	170	363		333		100	-
	pomix			178					136	-
pine	pjpur	152	115	82	160		116		69	-
	pjmix			48					24	-
birch	bwpur	226	175	4	134		93		6	-
	bwmix			54					48	-
fir	bfpmx	111	56	4	58		32		1	-
	othco			44					31	-
Total Area		**1,671**	**1,535**	**1,465**	**1,545**	**-**	**1,304**	**-**	**1,280**	**-**

* note 1 The volumes for the final year of term 2000/2005 are not available at this time (4-year ave only)

Planned Versus Actual Harvest Area



Sources: Planned and Actual Harvest Areas from Final RPFO Table 4.1, RPFO-1 or T4.15 for old plans and FMP-18 for new plans

* 1996-2000 actual based on 4yr

** 2000-2005 actual based on 4yr

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
sbloc	b&s	na	na	132,649	na	na	55,049	0	0	1	0	n/a	21,443	0
	1-10	na	na	8,154	na	na	4,646	0	0	135	0	n/a	16,635	0
(Sp 2 and Sp 3 for 1995 and 1990)	11-20	na	na	9,786	na	na	11,210	0	0	0	0	n/a	803	1,548
	21-30	na	na	27,391	na	na	2,490	0	0	51	51	n/a	1,548	2,387
	31-40	na	na	28,990	na	na	14,525	61	427	0	0	n/a	2,387	48,811
	41-50	na	na	31,030	na	na	146	21	336	1,455	23,280	n/a	6,973	155,664
	51-60	na	na	44,458	na	na	36,308	0	0	35	945	n/a	9,754	135,735
	61-70	na	na	32,376	na	na	1,787	12	480	35	1,435	n/a	5,434	330,769
	71-80	na	na	59,453	na	na	25,928	103	5,776	335	18,927	n/a	7,848	460,183
	81-90	na	na	29,595	na	na	1,185	91	5,915	435	29,427	n/a	8,202	573,837
	91-100	na	na	33,249	na	na	43,944	273	19,656	930	67,160	n/a	8,666	649,488
	101-110	na	na	57,040	na	na	413	599	44,698	1,208	89,848	n/a	9,051	909,052
	111-120	na	na	59,280	na	na	66,699	642	45,582	2,343	166,489	n/a	12,363	1,524,670
	121-130	na	na	28,068	na	na	605	1,644	113,436	1,919	132,411	n/a	21,584	9,163,707
	131-140	na	na	44,397	na	na	84,994	592	39,664	3,103	207,901	n/a	31,423	2,107,024
	141-150	na	na	0	na	na	46	342	21,546	821	51,723	n/a	15,317	965,339
	151-160	na	na	0	na	na	17,343	249	14,691	468	27,612	n/a	4,685	276,415
	161-170	na	na	0	na	na	0	128	6,912	6	324	n/a	1,277	68,958
	171-180	na	na	0	na	na	5,943	25	1,225	0	0	n/a	1,027	50,323
	181-190	na	na	0	na	na	0	0	0	0	0	n/a	165	6,930
	191-200	na	na	0	na	na	1,225	0	0	0	0	n/a	114	4,104
Forest Unit Subtotal		**30,301**	**0**	**625,916**	**25,300**	**2,652**	**374,486**	**4,782**	**320,344**	**13,280**	**817,533**	**0**	**186,699**	**17,434,944**
sbloh	b&s	na	na	na	na	na	na	0	0	1,020	0	n/a	14,235	0
	1-10	na	na	na	na	na	na	4	0	14	0	n/a	15,949	0
(na for 1990 and 1995)	11-20	na	na	na	na	na	na	37	0	819	0	n/a	4,752	0
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	218	0
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	1,901	7,588
	41-50	na	na	na	na	na	na	0	0	295	2,950	n/a	4,871	48,655
	51-60	na	na	na	na	na	na	0	0	23	391	n/a	4,360	73,274
	61-70	na	na	na	na	na	na	108	2,340	34	884	n/a	3,118	76,487
	71-80	na	na	na	na	na	na	283	8,685	178	5,820	n/a	3,410	114,850
	81-90	na	na	na	na	na	na	1,209	50,106	139	5,747	n/a	5,921	244,664
	91-100	na	na	na	na	na	na	3,351	157,089	615	27,861	n/a	6,101	284,167
	101-110	na	na	na	na	na	na	3,739	175,709	397	18,659	n/a	5,696	266,806
	111-120	na	na	na	na	na	na	2,609	120,040	186	8,575	n/a	6,731	309,731
	121-130	na	na	na	na	na	na	4,025	181,161	702	31,590	n/a	12,167	548,016
	131-140	na	na	na	na	na	na	2,512	110,612	1,215	53,502	n/a	15,197	668,954
	141-150	na	na	na	na	na	na	984	40,344	453	18,573	n/a	10,288	422,191
	151-160	na	na	na	na	na	na	219	8,322	39	1,482	n/a	4,271	162,348
	161-170	na	na	na	na	na	na	243	8,505	32	1,120	n/a	1,015	35,534
	171-180	na	na	na	na	na	na	162	5,022	113	3,503	n/a	1,911	59,241
	181-190	na	na	na	na	na	na	2	52	0	0	n/a	72	1,872
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	108	2,268
Forest Unit Subtotal		**na**	**0**	**na**	**0**	**0**	**0**	**19,487**	**867,987**	**6,274**	**180,657**	**0**	**122,292**	**3,326,646**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

Forest Unit	Age Class	Past Plans 1990-1995 Protection Forest (ha)	Past Plans 1990-1995 Production Forest Unavailable (ha)	Past Plans 1990-1995 Production Forest Available (ha)	Past Plans 1995-2000 Protection Forest (ha)	Past Plans 1995-2000 Production Forest Unavailable (ha)	Past Plans 1995-2000 Production Forest Available (ha)	Current Plan 2000-2005 Protection Forest (ha)	Current Plan 2000-2005 Protection Forest (m³)	Current Plan 2000-2005 Production Forest Unavailable (ha)	Current Plan 2000-2005 Production Forest Unavailable (m³)	Current Plan 2000-2005 Production Forest Stage of Manage	Current Plan 2000-2005 Production Forest Available (ha)	Current Plan 2000-2005 Production Forest Available (m³)
spupl	b&s	na	na	971	na	na	50,845	0	0	95	0	n/a	28,620	0
	1-10	na	na	618	na	na	8,199	0	0	3	0	n/a	16,403	0
(sp x & l for 1990 and 1995)	11-20	na	na	620	na	na	32,726	25	0	636	0	n/a	22,807	0
	21-30	na	na	32	na	na	1,298	0	0	45	135	n/a	11,724	35,172
	31-40	na	na	38	na	na	27,394	0	0	303	5,934	n/a	13,488	268,838
	41-50	na	na	165	na	na	1,021	0	0	70	2,590	n/a	9,209	340,292
	51-60	na	na	1,050	na	na	28,886	0	0	86	4,472	n/a	11,660	603,384
	61-70	na	na	335	na	na	7,754	0	0	198	15,518	n/a	16,958	1,346,814
	71-80	na	na	1,683	na	na	46,018	0	0	645	59,142	n/a	21,608	1,997,392
	81-90	na	na	617	na	na	6,918	0	0	483	47,295	n/a	13,635	1,339,803
	91-100	na	na	618	na	na	19,559	0	0	730	74,920	n/a	8,867	902,256
	101-110	na	na	130	na	na	90	0	0	1,377	139,007	n/a	5,125	515,567
	111-120	na	na	132	na	na	14,611	0	0	649	62,745	n/a	2,796	269,916
	121-130	na	na	58	na	na	156	0	0	970	87,300	n/a	6,681	598,266
	131-140	na	na	82	na	na	[illegible]	0	0	1,465	118,665	n/a	8,280	668,952
	141-150	na	na	0	na	na	43	0	0	273	18,912	n/a	4,508	315,218
	151-160	na	na	0	na	na	2,732	0	0	34	1,972	n/a	1,198	69,079
	161-170	na	na	0	na	na	0	0	0	22	836	n/a	604	22,988
	171-180	na	na	0	na	na	660	0	0	0	0	n/a	235	5,405
	181-190	na	na	0	na	na	0	0	0	6	54	n/a	36	324
	191-200	na	na	0	na	na	41	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**7,149**	**0**	**na**	**266,020**	**25**	**0**	**8,090**	**639,497**	**0**	**204,442**	**9,299,666**
sphmx	b&s	na	na	na	na	na	na	0	0	32	0	n/a	32	0
	1-10	na	na	na	na	na	na	0	0	92	92	n/a	10,045	9,169
(na for 1990 and 1995)	11-20	na	na	na	na	na	na	35	210	473	2,273	n/a	25,437	139,252
	21-30	na	na	na	na	na	na	0	0	235	6,345	n/a	7,983	215,541
	31-40	na	na	na	na	na	na	92	4,024	59	2,950	n/a	7,245	341,586
	41-50	na	na	na	na	na	na	82	5,620	278	19,182	n/a	6,134	407,514
	51-60	na	na	na	na	na	na	261	13,176	221	15,431	n/a	8,706	745,671
	61-70	na	na	na	na	na	na	125	7,625	654	41,528	n/a	9,916	869,318
	71-80	na	na	na	na	na	na	81	5,751	1,009	81,621	n/a	16,172	1,404,706
	81-90	na	na	na	na	na	na	242	19,690	404	32,668	n/a	8,810	739,258
	91-100	na	na	na	na	na	na	60	4,440	1,153	92,162	n/a	6,140	491,864
	101-110	na	na	na	na	na	na	17	1,207	508	36,068	n/a	3,882	274,758
	111-120	na	na	na	na	na	na	18	1,080	376	22,560	n/a	2,801	168,060
	121-130	na	na	na	na	na	na	0	0	682	34,100	n/a	3,071	153,550
	131-140	na	na	na	na	na	na	0	0	418	16,720	n/a	4,241	169,640
	141-150	na	na	na	na	na	na	0	0	67	2,077	n/a	1,277	39,587
	151-160	na	na	na	na	na	na	0	0	328	8,200	n/a	386	9,650
	161-170	na	na	na	na	na	na	0	0	35	560	n/a	393	6,288
	171-180	na	na	na	na	na	na	0	0	38	304	n/a	44	352
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**na**	**0**	**na**	**0**	**na**	**na**	**1,013**	**62,823**	**7,062**	**414,841**		**122,715**	**6,185,764**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan							
		1990-1995			1995-2000			2000-2005							
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest					
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m³)	(ha)	(m³)		(ha)	(m³)
popur (poplar for 1990 & 1995)	b&s	na	na	13,333	na	na	9,444	0	0	191	0	n/a	6,822	0
	1-10	na	na	5,307	na	na	2,826	0	0	0	0	n/a	8,001	0
	11-20	na	na	9,072	na	na	4,002	0	0	104	728	n/a	3,600	25,200
	21-30	na	na	3,323	na	na	4,487	0	0	0	0	n/a	1,485	36,258
	31-40	na	na	6,294	na	na	15,736	46	2,576	154	10,472	n/a	6,238	386,060
	41-50	na	na	11,989	na	na	632	0	0	19	1,786	n/a	845	79,430
	51-60	na	na	15,698	na	na	10,108	0	0	209	32,186	n/a	1,911	260,493
	61-70	na	na	12,586	na	na	2,181	0	0	591	101,349	n/a	4,607	745,419
	71-80	na	na	19,258	na	na	35,524	14	2,302	650	106,734	n/a	14,322	2,332,278
	81-90	na	na	3,346	na	na	1,874	0	0	594	86,229	n/a	4,343	639,015
	91-100	na	na	3,621	na	na	11,693	0	0	154	17,556	n/a	2,156	246,964
	101-110	na	na	334	na	na	87	0	0	91	7,007	n/a	881	68,404
	111-120	na	na	335	na	na	2,453	0	0	69	3,381	n/a	182	8,918
	121-130	na	na	39	na	na	0	0	0	0	0	n/a	0	0
	131-140	na	na	172	na	na	226	0	0	0	0	n/a	121	1,331
	141-150	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	151-160	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	161-170	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	na	na	0	na	na	129	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na	0	0	0	0	0	n/a	129	903
	191-200	na	na	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**798**	**0**	**104,707**	**976**	**497**	**101,402**	**60**	**4,878**	**2,826**	**367,428**	**0**	**55,643**	**4,830,673**
pomix (na for 1990 & 1995)	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	4,104	0
	11-20	na	na	na	na	na	na	56	224	0	0	n/a	1,482	5,928
	21-30	na	na	na	na	na	na	152	2,128	61	830	n/a	2,998	41,496
	31-40	na	na	na	na	na	na	0	0	405	14,472	n/a	4,970	175,282
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	1,469	96,510
	51-60	na	na	na	na	na	na	183	16,287	335	30,031	n/a	1,990	188,048
	61-70	na	na	na	na	na	na	99	10,825	621	67,068	n/a	3,691	420,286
	71-80	na	na	na	na	na	na	29	3,277	987	112,317	n/a	6,304	741,728
	81-90	na	na	na	na	na	na	101	10,840	322	34,424	n/a	4,509	482,214
	91-100	na	na	na	na	na	na	15	1,365	148	13,468	n/a	2,657	241,433
	101-110	na	na	na	na	na	na	25	1,750	35	2,450	n/a	1,594	111,580
	111-120	na	na	na	na	na	na	0	0	15	720	n/a	362	17,376
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	43	1,462
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	72	1,656
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**na**	**0**	**na**	**0**	**na**	**na**	**660**	**46,696**	**2,929**	**275,780**	**0**	**36,245**	**2,524,999**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest Unit	Age Class		Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
pjpur	b&s	na	na	1,215	na	na	1,996	0	0	0	0	n/a	812	0
	1-10	na	na	706	na	na	1,038	0	0	0	0	n/a	3,121	0
(pine for 1990 & 1995)	11-20	na	na	5,586	na	na	2,613	213	0	0	0	n/a	1,844	0
	21-30	na	na	1,321	na	na	4,047	63	1,197	7	133	n/a	1,193	22,667
	31-40	na	na	2,473	na	na	2,409	0	0	9	495	n/a	2,510	137,827
	41-50	na	na	1,920	na	na	13	0	0	0	0	n/a	1,692	150,638
	51-60	na	na	3,031	na	na	3,961	0	0	0	0	n/a	934	112,080
	61-70	na	na	6,759	na	na	915	0	0	182	26,142	n/a	558	79,980
	71-80	na	na	9,301	na	na	15,683	17	2,686	1,218	192,490	n/a	6,207	981,770
	81-90	na	na	479	na	na	367	44	6,952	407	64,306	n/a	1,952	308,416
	91-100	na	na	635	na	na	2,142	0	0	542	80,216	n/a	323	48,402
	101-110	na	na	437	na	na	21	0	0	51	6,647	n/a	87	11,447
	111-120	na	na	508	na	na	398	0	0	117	11,934	n/a	43	4,558
	121-130	na	na	503	na	na	0	0	0	200	13,800	n/a	18	1,242
	131-140	na	na	538	na	na	856	0	0	0	0	n/a	188	7,520
	141-150	na	na	0	na	na	0	0	0	0	0	n/a	63	756
	151-160	na	na	0	na	na	426	36	396	0	0	n/a	35	385
	161-170	na	na	0	na	na	0	0	0	0	0	n/a	34	374
	171-180	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	na	na	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**240**	**0**	**35,412**	**451**	**753**	**36,885**	**373**	**11,231**	**2,733**	**396,163**	**0**	**21,614**	**1,868,062**
pjmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	2,674	0
(na for 1990 & 1995)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	543	543
	21-30	na	na	na	na	na	na	0	0	9	99	n/a	1,009	13,562
	31-40	na	na	na	na	na	na	0	0	89	5,340	n/a	2,240	131,080
	41-50	na	na	na	na	na	na	9	612	0	0	n/a	392	26,656
	51-60	na	na	na	na	na	na	0	0	0	0	n/a	432	40,176
	61-70	na	na	na	na	na	na	0	0	76	10,433	n/a	553	65,072
	71-80	na	na	na	na	na	na	57	7,872	440	57,640	n/a	3,949	534,626
	81-90	na	na	na	na	na	na	8	1,064	141	18,753	n/a	826	115,918
	91-100	na	na	na	na	na	na	0	0	0	0	n/a	148	18,886
	101-110	na	na	na	na	na	na	0	0	35	4,056	n/a	179	20,432
	111-120	na	na	na	na	na	na	0	0	71	6,887	n/a	124	11,284
	121-130	na	na	na	na	na	na	0	0	36	2,556	n/a	53	3,763
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	102	4,794
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	305	8,235
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**na**	**0**	**na**	**0**	**0**	**0**	**74**	**9,548**	**897**	**105,764**	**0**	**13,529**	**995,027**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest	Age	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of	Available	
Unit	Class	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)	Manage	(ha)	(m^3)
bwpur	b&s	na	na	2,595	na	na	1,846	0	0	70	0	n/a	1,959	0
	1-10	na	na	566	na	na	810	0	0	0	0	n/a	346	0
	11-20	na	na	566	na	na	1,656	13	0	67	0	n/a	47	0
(birch for 1990 and 1995)	21-30	na	na	952	na	na	433	0	0	0	0	n/a	63	126
	31-40	na	na	1,712	na	na	1,358	18	396	36	756	n/a	13	273
	41-50	na	na	1,483	na	na	612	14	644	362	16,652	n/a	32	1,504
	51-60	na	na	4,312	na	na	4,008	16	1,024	96	6,240	n/a	243	15,688
	61-70	na	na	1,500	na	na	780	0	0	83	6,674	n/a	414	33,238
	71-80	na	na	4,723	na	na	4,583	0	0	26	2,288	n/a	669	59,246
	81-90	na	na	696	na	na	1,306	0	0	0	0	n/a	188	17,344
	91-100	na	na	1,322	na	na	1,781	0	0	34	3,230	n/a	27	2,484
	101-110	na	na	328	na	na	208	0	0	0	0	n/a	180	16,416
	111-120	na	na	413	na	na	930	0	0	0	0	n/a	0	0
	121-130	na	na	128	na	na	0	0	0	0	0	n/a	0	0
	131-140	na	na	579	na	na	345	0	0	0	0	n/a	0	0
	141-150	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	151-160	na	na	0	na	na	212	0	0	0	0	n/a	0	0
	161-170	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	na	na	0	na	na	14	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**1,517**	**0**	**21,875**	**969**	**na**	**20,882**	**61**	**2,064**	**774**	**35,840**	**0**	**4,181**	**146,319**
bwmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	858	0
(na for 1990 & 1995)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	107	107
	21-30	na	na	na	na	na	na	0	0	28	140	n/a	1,081	5,405
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	168	3,436
	41-50	na	na	na	na	na	na	106	4,982	37	1,739	n/a	986	45,187
	51-60	na	na	na	na	na	na	124	7,264	300	17,400	n/a	2,001	122,706
	61-70	na	na	na	na	na	na	241	18,983	205	14,711	n/a	1,881	144,354
	71-80	na	na	na	na	na	na	36	3,076	199	16,438	n/a	2,088	184,750
	81-90	na	na	na	na	na	na	123	10,332	463	38,928	n/a	1,485	131,280
	91-100	na	na	na	na	na	na	0	0	179	15,540	n/a	834	75,339
	101-110	na	na	na	na	na	na	0	0	184	14,572	n/a	638	52,478
	111-120	na	na	na	na	na	na	0	0	309	22,251	n/a	289	21,161
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	185	11,285
	131-140	na	na	na	na	na	na	24	1,056	50	2,250	n/a	127	5,621
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	176	4,877
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	62	1,054
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	126	1,638
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	31	341
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**386**	**0**	**654**	**45,693**	**1,954**	**143,969**	**0**	**13,123**	**811,019**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest	Age		Unavailable	Available		Unavailable	Available			Unavailable		Stage of	Available	
Unit	Class	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)	Manage	(ha)	(m^3)
bfpmx	b&s	0	na	583	na	na	2,657	0	0	28	0	n/a	549	0
	1-10	0	na	1,140	na	na	1,626	0	0	0	0	n/a	2,919	0
(fr for 1990 & 1995)	11-20	0	na	1,164	na	na	9	0	0	10	10	n/a	705	1,197
	21-30	0	na	3,684	na	na	15	0	0	62	434	n/a	1,197	8,150
	31-40	0	na	4,550	na	na	6,878	18	612	3	102	n/a	4,088	47,610
	41-50	0	na	6,428	na	na	677	0	0	232	12,045	n/a	3,131	126,095
	51-60	0	na	6,972	na	na	8,713	51	4,182	225	13,578	n/a	3,402	173,264
	61-70	0	na	2,263	na	na	255	66	6,402	279	23,899	n/a	3,174	218,150
	71-80	0	na	2,428	na	na	8,394	24	2,472	245	23,924	n/a	3,018	93,687
	81-90	0	na	344	na	na	458	0	0	199	18,685	n/a	1,164	60,060
	91-100	0	na	345	na	na	2,892	0	0	352	29,216	n/a	644	5,976
	101-110	0	na	90	na	na	523	0	0	0	0	n/a	72	3,212
	111-120	0	na	90	na	na	1,030	0	0	180	9,720	n/a	44	0
	121-130	0	na	13	na	na	232	0	0	0	0	n/a	0	0
	131-140	0	na	46	na	na	737	0	0	0	0	n/a	0	0
	141-150	0	na	0	na	na	0	0	0	0	0	n/a	1	20
	151-160	0	na	0	na	na	211	0	0	0	0	n/a	0	0
	161-170	0	na	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	0	na	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	0	na	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	0	na	0	na	na	17	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**423**	**0**	**30,140**	**575**		**35,324**	**159**	**13,668**	**1,815**	**131,613**	**0**	**24,108**	**737,421**
othco	b&s	0	na	1,330	na	na	na	0	0	106	0	n/a	898	0
	1-10	0	na	0	na	na	na	0	0	0	0	n/a	0	0
(n/a for 1990 & 1995)	11-20	0	na	7	na	na	na	10	4	18	4	n/a	107	55
	21-30	0	na	105	na	na	na	0	0	0	0	n/a	13	13
	31-40	0	na	105	na	na	na	0	0	0	0	n/a	7	21
	41-50	0	na	83	na	na	na	0	0	0	0	n/a	16	240
	51-60	0	na	205	na	na	na	0	0	6	96	n/a	295	7,080
	61-70	0	na	56	na	na	na	0	0	0	0	n/a	97	2,907
	71-80	0	na	1,062	na	na	na	68	2,448	55	2,200	n/a	254	9,376
	81-90	0	na	201	na	na	na	39	1,911	0	0	n/a	477	23,332
	91-100	0	na	1,421	na	na	na	115	6,555	165	8,849	n/a	522	29,542
	101-110	0	na	253	na	na	na	92	5,626	140	8,510	n/a	470	28,800
	111-120	0	na	980	na	na	na	80	4,882	131	8,018	n/a	339	19,991
	121-130	0	na	154	na	na	na	73	3,958	698	38,685	n/a	278	13,137
	131-140	0	na	792	na	na	na	69	2,720	359	17,870	n/a	248	10,544
	141-150	0	na	0	na	na	na	0	0	126	6,174	n/a	114	4,416
	151-160	0	na	0	na	na	na	0	0	55	2,092	n/a	61	1,830
	161-170	0	na	0	na	na	na	0	0	0	0	n/a	96	2,688
	171-180	0	na	0	na	na	na	0	0	0	0	n/a	0	0
	181-190	0	na	0	na	na	na	0	0	0	0	n/a	0	0
	191-200	0	na	0	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**588**	**0**	**6,754**	**369**			**546**	**28,104**	**1,859**	**92,498**	**0**	**4,292**	**153,972**

Table 5 - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest Unit	Age Class		Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
All Fus	b&s	0	0	152,676	0	0	121,837	0	0	1,543	0	0	75,370	0
	1-10	0	0	16,491	0	0	19,145	4	0	244	92	0	81,055	9,169
	11-20	0	0	26,801	0	0	52,216	389	438	2,127	3,015	0	62,234	173,830
	21-30	0	0	36,808	0	0	12,770	215	3,325	498	8,167	0	30,512	380,777
	31-40	0	0	44,162	0	0	68,300	235	8,035	1,058	40,521	0	45,255	1,548,412
	41-50	0	0	53,098	0	0	3,101	232	12,194	2,748	80,224	0	35,750	1,478,385
	51-60	0	0	75,726	0	0	91,984	635	41,933	1,536	120,770	0	45,688	2,477,599
	61-70	0	0	55,875	0	0	13,672	651	46,655	2,958	309,641	0	50,401	4,332,794
	71-80	0	0	97,908	0	0	136,130	712	44,345	5,987	679,541	0	85,849	8,914,592
	81-90	0	0	35,278	0	0	12,108	1,857	106,810	3,587	376,462	0	51,512	4,675,141
	91-100	0	0	41,211	0	0	82,011	3,814	189,105	5,002	430,178	0	37,085	2,996,801
	101-110	0	0	58,612	0	0	1,342	4,472	228,990	4,026	326,824	0	27,855	2,278,952
	111-120	0	0	61,738	0	0	86,121	3,349	171,584	4,446	323,280	0	26,074	2,355,665
	121-130	0	0	28,963	0	0	993	5,742	298,555	5,207	340,442	0	44,080	10,494,428
	131-140	0	0	46,606	0	0	104,227	3,197	154,052	6,610	416,908	0	59,999	3,646,036
	141-150	0	0	0	0	0	89	1,326	61,890	1,740	97,459	0	32,049	1,760,639
	151-160	0	0	0	0	0	20,924	504	23,409	924	41,358	0	10,698	520,761
	161-170	0	0	0	0	0	0	371	15,417	95	2,840	0	3,545	138,468
	171-180	0	0	0	0	0	6,732	187	6,247	151	3,807	0	3,217	115,321
	181-190	0	0	0	0	0	0	2	52	6	54	0	433	10,370
	191-200	0	0	0	0	0	1,297	0	0	0	0	0	222	6,372
All Fus Total		**33,867**	**0**	**831,953**	**28,640**	**0**	**834,999**	**27,894**	**1,413,036**	**50,493**	**3,601,583**	**0**	**808,883**	**48,314,512**
Total Productive Forest				**865,820**			**863,639**						**887,270**	

Sources: 1990-95 available based on Table 4 9 while remaining areas based on Table 4 8 2
1995-00 available based on Table 4 13 1 and Table 4 8 2
2000-2005 based on FMP-9

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
sbloc	b&s	na	0	121,542	na	na	54,989	0	0	0	0	n/a	19,477	0
	1-10	na	0	8,154	na	na		0	0	135	0	n/a	15,137	0
(Sp 2 and Sp 3 for 1995 and 1990)	11-20	na	0	8,155	na	na	6,016	0	0	0	0	n/a	93	1,548
	21-30	na	0	27,391	na	na		0	0	51	51	n/a	1,548	2,387
	31-40	na	0	27,391	na	na	14,514	61	427	0	0	n/a	2,387	48,811
	41-50	na	0	31,030	na	na		21	336	1,455	23,280	n/a	6,973	155,664
	51-60	na	0	31,030	na	na	35,721	0	0	35	945	n/a	9,729	135,135
	61-70	na	0	32,376	na	na		0	0	35	1,435	n/a	5,005	313,609
	71-80	na	0	32,377	na	na	24,239	95	5,320	168	9,408	n/a	7,649	448,840
	81-90	na	0	29,595	na	na		91	5,915	243	15,795	n/a	8,015	560,560
	91-100	na	0	29,596	na	na	43,083	273	19,656	905	65,160	n/a	8,624	646,128
	101-110	na	0	57,040	na	na		568	42,032	1,170	86,580	n/a	8,974	902,430
	111-120	na	0	57,040	na	na	66,032	642	45,582	2,335	165,785	n/a	12,195	1,509,886
	121-130	na	0	28,068	na	na		1,644	113,436	1,919	132,411	n/a	21,266	9,136,359
	131-140	na	0	43,484	na	na	84,690	592	39,664	3,103	207,901	n/a	31,324	2,098,708
	141-150	na	0	0	na	na		342	21,546	821	51,723	n/a	15,294	963,522
	151-160	na	0	0	na	na	17,343	249	14,691	468	27,612	n/a	4,685	276,415
	161-170	na	0	0	na	na		128	6,912	6	324	n/a	1,277	68,958
	171-180	na	0	0	na	na	5,943	25	1,225	0	0	n/a	1,027	50,323
	181-190	na	0	0	na	na		0	0	0	0	n/a	165	6,930
	191-200	na	0	0	na	na	1,225	0	0	0	0	n/a	114	4,104
Forest Unit Subtotal		**29,914**	**0**	**564,269**	**24,925**	**0**	**353,795**	**4,731**	**316,742**	**12,849**	**788,410**	**0**	**180,958**	**17,330,317**
sbloh	b&s	na	na	na	na	na	na	0	0	758	0	n/a	10,681	0
	1-10	na	na	na	na	na	na	4	0	14	0	n/a	13,594	0
(na for 1990 and 1995)	11-20	na	na	na	na	na	na	37	0	755	0	n/a	4,630	0
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	218	0
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	1,897	7,588
	41-50	na	na	na	na	na	na	0	0	295	2,950	n/a	4,860	48,600
	51-60	na	na	na	na	na	na	0	0	23	391	n/a	4,219	71,723
	61-70	na	na	na	na	na	na	56	1,456	34	884	n/a	2,609	67,834
	71-80	na	na	na	na	na	na	161	5,635	137	4,795	n/a	2,960	103,600
	81-90	na	na	na	na	na	na	1,113	46,746	126	5,292	n/a	5,347	224,574
	91-100	na	na	na	na	na	na	3,283	154,301	441	20,727	n/a	5,671	266,537
	101-110	na	na	na	na	na	na	3,727	175,169	397	18,659	n/a	5,243	246,421
	111-120	na	na	na	na	na	na	2,583	118,818	167	7,682	n/a	6,626	304,796
	121-130	na	na	na	na	na	na	3,989	179,505	702	31,590	n/a	11,666	524,970
	131-140	na	na	na	na	na	na	2,428	106,832	1,173	51,612	n/a	14,911	656,084
	141-150	na	na	na	na	na	na	984	40,344	453	18,573	n/a	9,905	406,105
	151-160	na	na	na	na	na	na	219	8,322	39	1,482	n/a	4,221	160,398
	161-170	na	na	na	na	na	na	243	8,505	32	1,120	n/a	1,006	35,210
	171-180	na	na	na	na	na	na	162	5,022	113	3,503	n/a	1,911	59,241
	181-190	na	na	na	na	na	na	2	52	0	0	n/a	72	1,872
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	108	2,268
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**18,991**	**850,707**	**5,659**	**169,260**	**0**	**112,355**	**3,187,821**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

Forest Unit	Age Class	Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m³)	(ha)	(m³)		(ha)	(m³)
spupl	b&s	na	na	336	na	na	50,312	0	0	54	0	n/a	26,271	0
	1-10	na	na	618	na	na		0	0	3	0	n/a	9,868	0
(sp s & 1 for 1990 and 1995)	11-20	na	na	620	na	na	29,668	25	0	631	0	n/a	18,227	0
	21-30	na	na	32	na	na		0	0	45	135	n/a	11,347	34,041
	31-40	na	na	32	na	na	26,997	0	0	240	4,800	n/a	13,027	260,540
	41-50	na	na	165	na	na		0	0	70	2,590	n/a	9,062	335,294
	51-60	na	na	166	na	na	26,236	0	0	86	4,472	n/a	10,926	568,152
	61-70	na	na	335	na	na		0	0	133	10,773	n/a	13,610	1,102,410
	71-80	na	na	336	na	na	32,415	0	0	408	38,760	n/a	15,456	1,468,320
	81-90	na	na	617	na	na		0	0	264	26,928	n/a	7,972	813,144
	91-100	na	na	618	na	na	18,724	0	0	605	62,920	n/a	6,378	663,312
	101-110	na	na	130	na	na		0	0	1,367	138,067	n/a	4,831	487,931
	111-120	na	na	132	na	na	14,382	0	0	623	60,431	n/a	2,634	255,498
	121-130	na	na	58	na	na		0	0	970	87,300	n/a	6,345	571,050
	131-140	na	na	82	na	na	16,941	0	0	1,465	118,665	n/a	8,088	655,128
	141-150	na	na	0	na	na		0	0	251	17,570	n/a	4,470	312,900
	151-160	na	na	0	na	na	2,714	0	0	34	1,972	n/a	1,153	66,874
	161-170	na	na	0	na	na		0	0	22	836	n/a	586	22,268
	171-180	na	na	0	na	na	660	0	0	0	0	n/a	235	5,405
	181-190	na	na	0	na	na		0	0	6	54	n/a	36	324
	191-200	na	na	0	na	na	41	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**4,277**	**0**	**0**	**219,090**	**25**	**0**	**7,277**	**576,273**	**0**	**170,522**	**7,622,591**
sphmx	b&s	na	na	na	na	na	na	0	0	23	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	92	92	n/a	9,169	9,169
(na for 1990 and 1995)	11-20	na	na	na	na	na	na	35	210	360	2,160	n/a	22,763	136,578
	21-30	na	na	na	na	na	na	0	0	235	6,345	n/a	7,983	215,541
	31-40	na	na	na	na	na	na	76	3,800	59	2,950	n/a	6,671	333,550
	41-50	na	na	na	na	na	na	81	5,589	278	19,182	n/a	5,720	394,680
	51-60	na	na	na	na	na	na	26	2,366	117	10,647	n/a	7,671	698,061
	61-70	na	na	na	na	na	na	0	0	43	4,257	n/a	6,959	688,941
	71-80	na	na	na	na	na	na	0	0	322	32,844	n/a	8,274	843,948
	81-90	na	na	na	na	na	na	81	7,776	126	12,096	n/a	3,969	381,024
	91-100	na	na	na	na	na	na	0	0	855	70,110	n/a	4,688	384,416
	101-110	na	na	na	na	na	na	17	1,207	508	36,068	n/a	3,666	260,286
	111-120	na	na	na	na	na	na	18	1,080	376	22,560	n/a	2,625	157,500
	121-130	na	na	na	na	na	na	0	0	682	34,100	n/a	2,907	145,350
	131-140	na	na	na	na	na	na	0	0	397	15,880	n/a	4,224	168,960
	141-150	na	na	na	na	na	na	0	0	67	2,077	n/a	1,277	39,587
	151-160	na	na	na	na	na	na	0	0	328	8,200	n/a	386	9,650
	161-170	na	na	na	na	na	na	0	0	35	560	n/a	393	6,288
	171-180	na	na	na	na	na	na	0	0	38	304	n/a	44	352
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**334**	**22,028**	**4,941**	**280,432**		**99,389**	**4,873,881**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
popur	b&s	na	0	6,364	na	na	9,332	0	0	107	0	n/a	4,466	0
	1-10	na	0	5,307	na	na		0	0	0	0	n/a	4,480	0
	11-20	na	0	5,308	na	na	1,585	0	0	71	497	n/a	38	266
(poplar for 1990 & 1995)	21-30	na	0	3,323	na	na		0	0	0	0	n/a	1,279	30,696
	31-40	na	0	3,323	na	na	13,417	46	2,576	0	0	n/a	3,177	177,912
	41-50	na	0	11,989	na	na		0	0	19	1,786	n/a	845	79,430
	51-60	na	0	11,990	na	na	9,201	0	0	0	0	n/a	1,779	240,165
	61-70	na	0	12,586	na	na		0	0	181	28,779	n/a	3,890	618,510
	71-80	na	0	12,586	na	na	32,274	1	1	462	73,458	n/a	11,262	1,790,658
	81-90	na	0	3,346	na	na		0	0	495	70,785	n/a	2,961	423,423
	91-100	na	0	3,347	na	na	11,549	0	0	154	17,556	n/a	2,038	232,332
	101-110	na	0	334	na	na		0	0	91	7,007	n/a	818	62,986
	111-120	na	0	335	na	na	2,453	0	0	69	3,381	n/a	182	8,918
	121-130	na	0	30	na	na		0	0	0	0	n/a	0	0
	131-140	na	0	172	na	na	226	0	0	0	0	n/a	121	1,331
	141-150	na	0	0	na	na		0	0	0	0	n/a	0	0
	151-160	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	161-170	na	0	0	na	na		0	0	0	0	n/a	0	0
	171-180	na	0	0	na	na	129	0	0	0	0	n/a	0	0
	181-190	na	0	0	na	na		0	0	0	0	n/a	129	903
	191-200	na	0	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**253**	**0**	**80,340**	**425**	**0**	**80,166**	**47**	**2,577**	**1,649**	**203,249**	**0**	**37,465**	**3,667,530**
pomix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	3,133	0
(na for 1990 & 1995)	11-20	na	na	na	na	na	na	56	224	0	0	n/a	423	1,692
	21-30	na	na	na	na	na	na	152	2,128	49	686	n/a	2,760	38,640
	31-40	na	na	na	na	na	na	0	0	351	12,636	n/a	3,151	113,436
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	1,358	89,628
	51-60	na	na	na	na	na	na	0	0	36	3,420	n/a	1,823	173,185
	61-70	na	na	na	na	na	na	19	2,185	0	0	n/a	3,094	355,810
	71-80	na	na	na	na	na	na	0	0	131	15,589	n/a	4,896	582,624
	81-90	na	na	na	na	na	na	56	6,160	156	17,160	n/a	2,213	243,430
	91-100	na	na	na	na	na	na	15	1,365	148	13,468	n/a	2,480	225,680
	101-110	na	na	na	na	na	na	25	1,750	35	2,450	n/a	1,490	104,300
	111-120	na	na	na	na	na	na	0	0	15	720	n/a	362	17,376
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	43	1,462
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	72	1,656
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**323**	**13,812**	**921**	**66,129**	**0**	**27,298**	**1,948,919**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
bwpur	b&s	na	na	1,039	na	na	1,846	0	0	0	0	n/a	624	0
	1-10	na	na	566	na	na		0	0	0	0	n/a	192	0
	11-20	na	na	566	na	na	791	13	0	22	0	n/a	47	0
(birch for 1990 and 1995)	21-30	na	na	952	na	na		0	0	0	0	n/a	63	126
	31-40	na	na	953	na	na	1,214	0	0	36	756	n/a	13	273
	41-50	na	na	1,483	na	na		0	0	0	0	n/a	32	1,504
	51-60	na	na	1,484	na	na	2,136	16	1,024	0	0	n/a	107	6,848
	61-70	na	na	1,500	na	na		0	0	49	3,920	n/a	296	23,680
	71-80	na	na	1,501	na	na	3,118	0	0	26	2,288	n/a	482	42,416
	81-90	na	na	696	na	na		0	0	0	0	n/a	140	12,880
	91-100	na	na	697	na	na	1,573	0	0	0	0	n/a	27	2,484
	101-110	na	na	328	na	na		0	0	0	0	n/a	48	4,272
	111-120	na	na	328	na	na	845	0	0	0	0	n/a	0	0
	121-130	na	na	128	na	na		0	0	0	0	n/a	0	0
	131-140	na	na	334	na	na	237	0	0	0	0	n/a	0	0
	141-150	na	na	0	na	na		0	0	0	0	n/a	0	0
	151-160	na	na	0	na	na	212	0	0	0	0	n/a	0	0
	161-170	na	na	0	na	na		0	0	0	0	n/a	0	0
	171-180	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na		0	0	0	0	n/a	0	0
	191-200	na	na	0	na	na	14	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**961**	**0**	**12,555**	**441**	**0**	**11,986**	**29**	**1,024**	**133**	**6,964**	**0**	**2,071**	**94,483**
bwmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	699	0
(na for 1990 & 1995)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	27	27
	21-30	na	na	na	na	na	na	0	0	28	140	n/a	1,081	5,405
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	103	2,266
	41-50	na	na	na	na	na	na	106	4,982	37	1,739	n/a	821	38,587
	51-60	na	na	na	na	na	na	32	2,112	60	3,960	n/a	1,065	70,290
	61-70	na	na	na	na	na	na	144	12,096	12	1,008	n/a	831	69,804
	71-80	na	na	na	na	na	na	14	1,316	37	3,478	n/a	1,265	118,910
	81-90	na	na	na	na	na	na	0	0	3	288	n/a	545	52,320
	91-100	na	na	na	na	na	na	0	0	56	5,208	n/a	587	54,591
	101-110	na	na	na	na	na	na	0	0	9	747	n/a	519	43,077
	111-120	na	na	na	na	na	na	0	0	186	13,764	n/a	244	18,056
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	185	11,285
	131-140	na	na	na	na	na	na	24	1,056	0	0	n/a	94	4,136
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	125	3,500
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	62	1,054
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	126	1,638
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	31	341
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**320**	**21,562**	**428**	**30,332**	**0**	**8,410**	**495,287**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
pjpur	b&s	na	0	1,047	na	na	1,964							
	1-10	na	0	706	na	na		0	0	0	0	n/a	651	0
(pine for 1990 & 1995)	11-20	na	0	707	na	na	1,571	0	0	0	0	n/a	2,222	0
	21-30	na	0	1,321	na	na		213	0	0	0	n/a	1,234	0
	31-40	na	0	1,321	na	na	1,270	63	1,197	0	0	n/a	299	5,681
	41-50	na	0	1,920	na	na		0	0	0	0	n/a	223	12,042
	51-60	na	0	1,920	na	na	3,730	0	0	0	0	n/a	1,667	148,363
	61-70	na	0	6,759	na	na		0	0	0	0	n/a	934	112,080
	71-80	na	0	6,759	na	na	14,198	0	0	66	9,438	n/a	372	53,196
	81-90	na	0	479	na	na		17	2,686	1,172	185,176	n/a	5,143	812,594
	91-100	na	0	480	na	na	2,031	44	6,952	66	10,428	n/a	1,459	230,522
	101-110	na	0	437	na	na		0	0	0	0	n/a	299	44,850
	111-120	na	0	437	na	na	398	0	0	17	2,261	n/a	56	7,448
	121-130	na	0	503	na	na		0	0	0	0	n/a	43	4,558
	131-140	na	0	538	na	na	856	0	0	0	0	n/a	0	0
	141-150	na	0	0	na	na		0	0	0	0	n/a	188	7,520
	151-160	na	0	0	na	na	426	0	0	0	0	n/a	63	756
	161-170	na	0	0	na	na		36	396	0	0	n/a	35	385
	171-180	na	0	0	na	na	0	0	0	0	0	n/a	34	374
	181-190	na	0	0	na	na		0	0	0	0	n/a	0	0
	191-200	na	0	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**225**	**0**	**25,334**	**436**	**0**	**26,444**	**373**	**11,231**	**1,321**	**207,303**	**0**	**14,922**	**1,440,369**
pjmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	1,349	0
(na for 1990 & 1995)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	532	532
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	821	11,494
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	166	6,640
	41-50	na	na	na	na	na	na	9	612	0	0	n/a	392	26,656
	51-60	na	na	na	na	na	na	0	0	0	0	n/a	432	40,176
	61-70	na	na	na	na	na	na	0	0	27	3,132	n/a	525	60,900
	71-80	na	na	na	na	na	na	42	5,502	440	57,640	n/a	3,308	433,348
	81-90	na	na	na	na	na	na	8	1,064	141	18,753	n/a	523	69,559
	91-100	na	na	na	na	na	na	0	0	0	0	n/a	142	18,034
	101-110	na	na	na	na	na	na	0	0	18	2,016	n/a	131	14,672
	111-120	na	na	na	na	na	na	0	0	0	0	n/a	124	11,284
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	53	3,763
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	102	4,794
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	305	8,235
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**59**	**7,178**	**626**	**81,541**	**0**	**8,905**	**710,087**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

Forest Unit	Age Class	Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
bfpmx	b&s	na	na	320	na	na	2,657	0	0	0	0	n/a	353	0
	1-10	na	na	1,140	na	na		0	0	0	0	n/a	2,563	0
(fir for 1990 & 1995)	11-20	na	na	1,141	na	na	9	0	0	10	10	n/a	705	1,197
	21-30	na	na	3,684	na	na		0	0	0	0	n/a	1,197	8,150
	31-40	na	na	3,685	na	na	6,718	0	0	0	0	n/a	4,075	47,168
	41-50	na	na	6,428	na	na		0	0	75	2,625	n/a	2,948	115,115
	51-60	na	na	6,429	na	na	8,333	0	0	174	9,396	n/a	3,289	163,998
	61-70	na	na	2,263	na	na		0	0	113	7,797	n/a	3,037	204,861
	71-80	na	na	2,264	na	na	7,967	0	0	57	4,560	n/a	2,969	88,640
	81-90	na	na	344	na	na		0	0	22	1,870	n/a	1,108	54,740
	91-100	na	na	345	na	na	2,339	0	0	352	29,216	n/a	644	5,976
	101-110	na	na	90	na	na		0	0	0	0	n/a	72	3,212
	111-120	na	na	90	na	na	537	0	0	180	9,720	n/a	44	0
	121-130	na	na	13	na	na		0	0	0	0	n/a	0	0
	131-140	na	na	46	na	na	375	0	0	0	0	n/a	0	0
	141-150	na	na	0	na	na		0	0	0	0	n/a	1	20
	151-160	na	na	0	na	na	211	0	0	0	0	n/a	0	0
	161-170	na	na	0	na	na		0	0	0	0	n/a	0	0
	171-180	na	na	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na		0	0	0	0	n/a	0	0
	191-200	na	na	0	na	na	17	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**28,282**	**152**	**0**	**29,163**	**0**	**0**	**983**	**65,194**	**0**	**23,005**	**693,077**
othco	b&s	na	na	402	na	na	na	0	0	72	0	n/a	231	0
	1-10	na	na	0	na	na	na	0	0	0	0	n/a	0	0
(n/a for 1990 & 1995)	11-20	na	na	0	na	na	na	4	4	4	4	n/a	55	55
	21-30	na	na	105	na	na	na	0	0	0	0	n/a	0	0
	31-40	na	na	105	na	na	na	0	0	0	0	n/a	0	0
	41-50	na	na	83	na	na	na	0	0	0	0	n/a	16	240
	51-60	na	na	84	na	na	na	0	0	0	0	n/a	295	7,080
	61-70	na	na	56	na	na	na	0	0	0	0	n/a	48	1,584
	71-80	na	na	57	na	na	na	0	0	55	2,200	n/a	58	2,320
	81-90	na	na	201	na	na	na	0	0	0	0	n/a	41	1,968
	91-100	na	na	202	na	na	na	0	0	139	7,367	n/a	53	2,809
	101-110	na	na	253	na	na	na	17	901	31	1,643	n/a	81	4,293
	111-120	na	na	255	na	na	na	6	294	8	392	n/a	79	3,871
	121-130	na	na	154	na	na	na	10	430	31	1,333	n/a	187	8,041
	131-140	na	na	430	na	na	na	62	2,356	57	2,166	n/a	168	6,384
	141-150	na	na	0	na	na	na	0	0	0	0	n/a	78	2,652
	151-160	na	na	0	na	na	na	0	0	21	630	n/a	61	1,830
	161-170	na	na	0	na	na	na	0	0	0	0	n/a	96	2,688
	171-180	na	na	0	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	0	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	0	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**214**	**0**	**2,387**	**0**	**0**	**0**	**99**	**3,985**	**418**	**15,735**	**0**	**1,547**	**45,815**

Table 5a - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest NORTH

		Past Plans						Current Plan						
		1990-1995			1995-2000			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest	Age		Unavailable	Available		Unavailable	Available			Unavailable		Stage of	Available	
Unit	Class	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)	Manage	(ha)	(m^3)
bfpmx	b&s	na	na	320	na	na	2,657	0	0	0	0	n/a	353	0
All Fus	b&s	na	na	131,050	0	0	121,100	0	0	1,014	0	0	62,103	0
	1-10	na	na	16,491	0	0	0	4	0	244	92	0	60,835	9,169
	11-20	na	na	16,497	0	0	39,640	170	438	1,853	2,671	0	49,762	141,895
	21-30	na	na	36,808	0	0	0	365	2,128	408	7,357	0	29,531	346,480
	31-40	na	na	36,810	0	0	64,130	246	8,000	686	21,142	0	34,966	1,003,865
	41-50	na	na	53,098	0	0	0	217	11,519	2,229	54,152	0	33,250	1,297,440
	51-60	na	na	53,103	0	0	85,357	74	5,502	531	33,231	0	43,002	2,323,176
	61-70	na	na	55,875	0	0	0	219	15,737	627	61,985	0	40,838	3,620,023
	71-80	na	na	55,880	0	0	114,211	313	17,774	2,309	254,458	0	58,951	5,976,820
	81-90	na	na	35,278	0	0	0	1,366	70,347	2,748	354,143	0	37,977	3,650,216
	91-100	na	na	35,285	0	0	79,299	3,615	182,274	3,721	302,160	0	32,791	2,732,821
	101-110	na	na	58,612	0	0	0	4,354	221,059	3,626	293,237	0	26,172	2,178,730
	111-120	na	na	58,617	0	0	84,647	3,249	165,774	3,976	286,696	0	25,171	2,294,633
	121-130	na	na	28,954	0	0	0	5,643	293,371	4,304	286,734	0	42,695	10,406,838
	131-140	na	na	45,086	0	0	103,325	3,106	149,908	6,195	396,224	0	59,104	3,597,181
	141-150	na	na	0	0	0	0	1,326	61,890	1,592	89,943	0	31,643	1,744,041
	151-160	na	na	0	0	0	20,906	468	23,013	890	39,896	0	10,631	516,977
	161-170	na	na	0	0	0	0	407	15,813	95	2,840	0	3,519	137,435
	171-180	na	na	0	0	0	6,732	187	6,247	151	3,807	0	3,251	115,695
	181-190	na	na	0	0	0	0	2	52	6	54	0	433	10,370
	191-200	na	na	0	0	0	1,297	0	0	0	0	0	222	6,372
All Fus Total		**31,567**	**0**	**717,444**	**26,379**	**0**	**720,644**	**25,331**	**1,250,846**	**37,205**	**2,490,822**	**0**	**686,847**	**42,110,177**
Total Productive Forest				**749,011**			**747,023**						**749,383**	

Sources:
1990-95 available based on Table 4 9, while remaining areas based on Table 4 8 2
1995-00 available based on Table 4 13 1 and Table 4 8 2
2000-2005 based on FMP-9

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m³)	(ha)	(m³)		(ha)	(m³)
sbloc (Sp 2 and Sp 3 for 1996 and 1991)	b&s	na	0	11,107	na	na	60	0	0	0	0	n/a	1,966	0
	1-10	na	0		na	na	4,646	0	0	0	0	n/a	1,498	0
	11-20	na	0	1,631	na	na	5,194	0	0	0	0	n/a	710	0
	21-30	na	0		na	na	2,490	0	0	0	0	n/a	0	0
	31-40	na	0	1,599	na	na	11	0	0	0	0	n/a	0	0
	41-50	na	0		na	na	146	0	0	0	0	n/a	0	0
	51-60	na	0	13,428	na	na	587	0	0	0	0	n/a	25	600
	61-70	na	0		na	na	1,787	12	480	0	0	n/a	429	17,160
	71-80	na	0	27,076	na	na	1,689	8	456	167	9,519	n/a	199	11,343
	81-90	na	0		na	na	1,185	0	0	192	13,632	n/a	187	13,277
	91-100	na	0	3,653	na	na	861	0	0	25	2,000	n/a	42	3,360
	101-110	na	0		na	na	413	31	2,666	38	3,268	n/a	77	6,622
	111-120	na	0	2,240	na	na	667	0	0	8	704	n/a	168	14,784
	121-130	na	0		na	na	605	0	0	0	0	n/a	318	27,348
	131-140	na	0	913	na	na	304	0	0	0	0	n/a	99	8,316
	141-150	na	0	0	na	na	46	0	0	0	0	n/a	23	1,817
	151-160	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	161-170	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	na	0	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**387**	**0**	**61,647**	**375**	**0**	**20,691**	**51**	**3,602**	**430**	**29,123**	**0**	**5,741**	**104,627**
sbloh (na for 1991 and 1996)	b&s	na	na	na	na	na	na	0	0	262	0	n/a	3,554	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	2,355	0
	11-20	na	na	na	na	na	na	0	0	64	0	n/a	122	0
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	4	0
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	11	55
	51-60	na	na	na	na	na	na	0	0	0	0	n/a	141	1,551
	61-70	na	na	na	na	na	na	52	884	0	0	n/a	509	8,653
	71-80	na	na	na	na	na	na	122	3,050	41	1,025	n/a	450	11,250
	81-90	na	na	na	na	na	na	96	3,360	13	455	n/a	574	20,090
	91-100	na	na	na	na	na	na	68	2,788	174	7,134	n/a	430	17,630
	101-110	na	na	na	na	na	na	12	540	0	0	n/a	453	20,385
	111-120	na	na	na	na	na	na	26	1,222	19	893	n/a	105	4,935
	121-130	na	na	na	na	na	na	36	1,656	0	0	n/a	501	23,046
	131-140	na	na	na	na	na	na	84	3,780	42	1,890	n/a	286	12,870
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	383	16,086
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	50	1,950
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	9	324
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**496**	**17,280**	**615**	**11,397**	**0**	**9,937**	**138,825**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest Unit	Age Class		Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
spupl	b&s	na	na	635	na	na	533	0	0	41	0	n/a	2,349	0
	1-10	na	na		na	na	8,199	0	0	0	0	n/a	6,535	0
(sp x & l for 1991 and 1996)	11-20	na	na	0	na	na	3,058	0	0	5	0	n/a	4,580	0
	21-30	na	na		na	na	1,298	0	0	0	0	n/a	377	1,131
	31-40	na	na	6	na	na	397	0	0	63	1,134	n/a	461	8,298
	41-50	na	na		na	na	1,021	0	0	0	0	n/a	147	4,998
	51-60	na	na	884	na	na	2,650	0	0	0	0	n/a	734	35,232
	61-70	na	na		na	na	7,754	0	0	65	4,745	n/a	3,348	244,404
	71-80	na	na	1,347	na	na	13,603	0	0	237	20,382	n/a	6,152	529,072
	81-90	na	na		na	na	6,918	0	0	219	20,367	n/a	5,663	526,659
	91-100	na	na		na	na	835	0	0	125	12,000	n/a	2,489	238,944
	101-110	na	na		na	na	90	0	0	10	940	n/a	294	27,636
	111-120	na	na		na	na	229	0	0	26	2,314	n/a	162	14,418
	121-130	na	na		na	na	156	0	0	0	0	n/a	336	27,216
	131-140	na	na		na	na	128	0	0	0	0	n/a	192	13,824
	141-150	na	na		na	na	43	0	0	22	1,342	n/a	38	2,318
	151-160	na	na		na	na	18	0	0	0	0	n/a	45	2,205
	161-170	na	na		na	na	0	0	0	0	0	n/a	18	720
	171-180	na	na		na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na		na	na	0	0	0	0	0	n/a	0	0
	191-200	na	na		na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**2.872**	**0**	**na**	**46,930**	**0**	**0**	**813**	**63,224**	**0**	**33,920**	**1,677,075**
sphmx	b&s	na	na	na	na	na	na	0	0	9	0	n/a	32	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	876	0
(na for 1991 and 1996)	11-20	na	na	na	na	na	na	0	0	113	113	n/a	2,674	2,674
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	31-40	na	na	na	na	na	na	16	224	0	0	n/a	574	8,036
	41-50	na	na	na	na	na	na	1	31	0	0	n/a	414	12,834
	51-60	na	na	na	na	na	na	235	10,810	104	4,784	n/a	1,035	47,610
	61-70	na	na	na	na	na	na	125	7,625	611	37,271	n/a	2,957	180,377
	71-80	na	na	na	na	na	na	81	5,751	687	48,777	n/a	7,898	560,758
	81-90	na	na	na	na	na	na	161	11,914	278	20,572	n/a	4,841	358,234
	91-100	na	na	na	na	na	na	60	4,440	298	22,052	n/a	1,452	107,448
	101-110	na	na	na	na	na	na	0	0	0	0	n/a	216	14,472
	111-120	na	na	na	na	na	na	0	0	0	0	n/a	176	10,560
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	164	8,200
	131-140	na	na	na	na	na	na	0	0	21	840	n/a	17	680
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**679**	**40,795**	**2.121**	**134,409**		**23.326**	**1.311.883**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
popur	b&s	na	0	6,969	na	na	112	0	0	84	0	n/a	2,356	0
	1-10	na	0		na	na	2,826	0	0	0	0	n/a	3,521	0
	11-20	na	0	3,764	na	na	2,417	0	0	33	231	n/a	3,562	24,934
(poplar for 1991 & 1996)	21-30	na	0		na	na	4,487	0	0	0	0	n/a	206	5,562
	31-40	na	0	2,971	na	na	2,319	0	0	154	10,472	n/a	3,061	208,148
	41-50	na	0		na	na	632	0	0	0	0	n/a	0	0
	51-60	na	0	3,708	na	na	907	0	0	209	32,186	n/a	132	20,328
	61-70	na	0		na	na	2,181	0	0	410	72,570	n/a	717	126,909
	71-80	na	0	6,672	na	na	3,250	13	2,301	188	33,276	n/a	3,060	541,620
	81-90	na	0		na	na	1,874	0	0	99	15,444	n/a	1,382	215,592
	91-100	na	0	274	na	na	144	0	0	0	0	n/a	118	14,632
	101-110	na	0		na	na	87	0	0	0	0	n/a	63	5,418
	111-120	na	0		na	na	0	0	0	0	0	n/a	0	0
	121-130	na	0	9	na	na	0	0	0	0	0	n/a	0	0
	131-140	na	0		na	na	0	0	0	0	0	n/a	0	0
	141-150	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	151-160	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	161-170	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	na	0	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**545**	**0**	**24,367**	**551**	**0**	**21,236**	**13**	**2,301**	**1,177**	**164,179**	**0**	**18,178**	**1,163,143**
pomix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	971	0
(na for 1991 & 1996)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	1,059	4,236
	21-30	na	na	na	na	na	na	0	0	12	144	n/a	238	2,856
	31-40	na	na	na	na	na	na	0	0	54	1,836	n/a	1,819	61,846
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	111	6,882
	51-60	na	na	na	na	na	na	183	16,287	299	26,611	n/a	167	14,863
	61-70	na	na	na	na	na	na	80	8,640	621	67,068	n/a	597	64,476
	71-80	na	na	na	na	na	na	29	3,277	856	96,728	n/a	1,408	159,104
	81-90	na	na	na	na	na	na	45	4,680	166	17,264	n/a	2,296	238,784
	91-100	na	na	na	na	na	na	0	0	0	0	n/a	177	15,753
	101-110	na	na	na	na	na	na	0	0	0	0	n/a	104	7,280
	111-120	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**337**	**32,884**	**2,008**	**209,651**	**0**	**8,947**	**576,080**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
pjpur	b&s	na	0	168	na	na	32	0	0	0	0	n/a	161	0
	1-10	na	0		na	na	1,038	0	0	0	0	n/a	899	0
(pine for 1991 & 1996)	11-20	na	0	4,879	na	na	1,042	0	0	0	0	n/a	610	0
	21-30	na	0		na	na	4,047	0	0	7	133	n/a	894	16,986
	31-40	na	0	1,152	na	na	1,139	0	0	9	495	n/a	2,287	125,785
	41-50	na	0		na	na	13	0	0	0	0	n/a	25	2,275
	51-60	na	0	1,111	na	na	231	0	0	0	0	n/a	0	0
	61-70	na	0		na	na	915	0	0	116	16,704	n/a	186	26,784
	71-80	na	0	2,542	na	na	1,485	0	0	46	7,314	n/a	1,064	169,176
	81-90	na	0		na	na	367	0	0	341	53,878	n/a	493	77,894
	91-100	na	0	155	na	na	111	0	0	542	80,216	n/a	24	3,552
	101-110	na	0		na	na	21	0	0	34	4,386	n/a	31	3,999
	111-120	na	0	71	na	na	0	0	0	117	11,934	n/a	0	0
	121-130	na	0		na	na	0	0	0	200	13,800	n/a	18	1,242
	131-140	na	0		na	na	0	0	0	0	0	n/a	0	0
	141-150	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	151-160	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	161-170	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	171-180	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	181-190	na	0	0	na	na	0	0	0	0	0	n/a	0	0
	191-200	na	0	0	na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**15**	**0**	**10,078**	**15**	**753**	**10,441**	**0**	**0**	**1,412**	**188,860**	**0**	**6,692**	**427,693**
pjmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	1,325	0
(na for 1991 & 1996)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	11	11
	21-30	na	na	na	na	na	na	0	0	9	99	n/a	188	2,068
	31-40	na	na	na	na	na	na	0	0	89	5,340	n/a	2,074	124,440
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	51-60	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	61-70	na	na	na	na	na	na	0	0	49	7,301	n/a	28	4,172
	71-80	na	na	na	na	na	na	15	2,370	0	0	n/a	641	101,278
	81-90	na	na	na	na	na	na	0	0	0	0	n/a	303	46,359
	91-100	na	na	na	na	na	na	0	0	0	0	n/a	6	852
	101-110	na	na	na	na	na	na	0	0	17	2,040	n/a	48	5,760
	111-120	na	na	na	na	na	na	0	0	71	6,887	n/a	0	0
	121-130	na	na	na	na	na	na	0	0	36	2,556	n/a	0	0
	131-140	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**15**	**2,370**	**271**	**24,223**	**0**	**4,624**	**284,940**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
Forest Unit	Age Class	Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
bfpmx (fir for 1991 & 1996)	b&s	0	na	263	na	na	0	0	0	28	0	n/a	196	0
	1-10	0	na		na	na	1,626	0	0	0	0	n/a	356	0
	11-20	0	na	23	na	na	0	0	0	0	0	n/a	0	0
	21-30	0	na		na	na	15	0	0	62	434	n/a	0	0
	31-40	0	na	865	na	na	160	18	612	3	102	n/a	13	442
	41-50	0	na		na	na	677	0	0	157	9,420	n/a	183	10,980
	51-60	0	na	543	na	na	380	51	4,182	51	4,182	n/a	113	9,266
	61-70	0	na		na	na	255	66	6,402	166	16,102	n/a	137	13,289
	71-80	0	na	164	na	na	427	24	2,472	188	19,364	n/a	49	5,047
	81-90	0	na		na	na	458	0	0	177	16,815	n/a	56	5,320
	91-100	0	na		na	na	553	0	0	0	0	n/a	0	0
	101-110	0	na		na	na	523	0	0	0	0	n/a	0	0
	111-120	0	na		na	na	493	0	0	0	0	n/a	0	0
	121-130	0	na		na	na	232	0	0	0	0	n/a	0	0
	131-140	0	na		na	na	362	0	0	0	0	n/a	0	0
	141-150	0	na		na	na	0	0	0	0	0	n/a	0	0
	151-160	0	na		na	na	0	0	0	0	0	n/a	0	0
	161-170	0	na		na	na	0	0	0	0	0	n/a	0	0
	171-180	0	na		na	na	0	0	0	0	0	n/a	0	0
	181-190	0	na		na	na	0	0	0	0	0	n/a	0	0
	191-200	0	na		na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**423**	**0**	**1,858**	**423**		**6,161**	**159**	**13,668**	**832**	**66,419**	**0**	**1,103**	**44,344**
othco (n/a for 1991 & 1996)	b&s	0	na	928	na	na	na	0	0	34	0	n/a	667	0
	1-10	0	na		na	na	na	0	0	0	0	n/a	0	0
	11-20	0	na	7	na	na	na	6	0	14	0	n/a	52	0
	21-30	0	na		na	na	na	0	0	0	0	n/a	13	13
	31-40	0	na		na	na	na	0	0	0	0	n/a	7	21
	41-50	0	na		na	na	na	0	0	0	0	n/a	0	0
	51-60	0	na	121	na	na	na	0	0	6	96	n/a	0	0
	61-70	0	na		na	na	na	0	0	0	0	n/a	49	1,323
	71-80	0	na	1,005	na	na	na	68	2,448	0	0	n/a	196	7,056
	81-90	0	na		na	na	na	39	1,911	0	0	n/a	436	21,364
	91-100	0	na	1,219	na	na	na	115	6,555	26	1,482	n/a	469	26,733
	101-110	0	na		na	na	na	75	4,725	109	6,867	n/a	389	24,507
	111-120	0	na	725	na	na	na	74	4,588	123	7,626	n/a	260	16,120
	121-130	0	na		na	na	na	63	3,528	667	37,352	n/a	91	5,096
	131-140	0	na	362	na	na	na	7	364	302	15,704	n/a	80	4,160
	141-150	0	na		na	na	na	0	0	126	6,174	n/a	36	1,764
	151-160	0	na		na	na	na	0	0	34	1,462	n/a	0	0
	161-170	0	na		na	na	na	0	0	0	0	n/a	0	0
	171-180	0	na		na	na	na	0	0	0	0	n/a	0	0
	181-190	0	na		na	na	na	0	0	0	0	n/a	0	0
	191-200	0	na		na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**374**	**0**	**4,367**	**369**	**0**	**0**	**447**	**24,119**	**1,441**	**76,763**	**0**	**2,745**	**108,157**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

Forest Unit	Age Class	Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
			Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
bwpur	b&s	na	na	1,556	na	na	0	0	0	70	0	n/a	1,335	0
	1-10	na	na		na	na	810	0	0	0	0	n/a	154	0
	11-20	na	na	0	na	na	865	0	0	45	0	n/a	0	0
(birch for 1991 and 1996)	21-30	na	na		na	na	433	0	0	0	0	n/a	0	0
	31-40	na	na	759	na	na	144	18	396	0	0	n/a	0	0
	41-50	na	na		na	na	612	14	644	362	16,652	n/a	0	0
	51-60	na	na	2,828	na	na	1,872	0	0	96	6,240	n/a	136	8,840
	61-70	na	na		na	na	780	0	0	34	2,754	n/a	118	9,558
	71-80	na	na	3,222	na	na	1,465	0	0	0	0	n/a	187	16,830
	81-90	na	na		na	na	1,306	0	0	0	0	n/a	48	4,464
	91-100	na	na	625	na	na	208	0	0	34	3,230	n/a	0	0
	101-110	na	na		na	na	208	0	0	0	0	n/a	132	12,144
	111-120	na	na	85	na	na	85	0	0	0	0	n/a	0	0
	121-130	na	na		na	na	0	0	0	0	0	n/a	0	0
	131-140	na	na	245	na	na	108	0	0	0	0	n/a	0	0
	141-150	na	na		na	na	0	0	0	0	0	n/a	0	0
	151-160	na	na		na	na	0	0	0	0	0	n/a	0	0
	161-170	na	na		na	na	0	0	0	0	0	n/a	0	0
	171-180	na	na		na	na	0	0	0	0	0	n/a	0	0
	181-190	na	na		na	na	0	0	0	0	0	n/a	0	0
	191-200	na	na		na	na	0	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**556**	**0**	**9,320**	**528**	**na**	**8,896**	**32**	**1.040**	**641**	**28,876**	**0**	**2.110**	**51,836**
bwmix	b&s	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	1-10	na	na	na	na	na	na	0	0	0	0	n/a	159	0
(na for 1991 & 1996)	11-20	na	na	na	na	na	na	0	0	0	0	n/a	80	80
	21-30	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	31-40	na	na	na	na	na	na	0	0	0	0	n/a	65	1,170
	41-50	na	na	na	na	na	na	0	0	0	0	n/a	165	6,600
	51-60	na	na	na	na	na	na	92	5,152	240	13,440	n/a	936	52,416
	61-70	na	na	na	na	na	na	97	6,887	193	13,703	n/a	1,050	74,550
	71-80	na	na	na	na	na	na	22	1,760	162	12,960	n/a	823	65,840
	81-90	na	na	na	na	na	na	123	10,332	460	38,640	n/a	940	78,960
	91-100	na	na	na	na	na	na	0	0	123	10,332	n/a	247	20,748
	101-110	na	na	na	na	na	na	0	0	175	13,825	n/a	119	9,401
	111-120	na	na	na	na	na	na	0	0	123	8,487	n/a	45	3,105
	121-130	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	131-140	na	na	na	na	na	na	0	0	50	2,250	n/a	33	1,485
	141-150	na	na	na	na	na	na	0	0	0	0	n/a	51	1,377
	151-160	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	161-170	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	171-180	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	181-190	na	na	na	na	na	na	0	0	0	0	n/a	0	0
	191-200	na	na	na	na	na	na	0	0	0	0	n/a	0	0
Forest Unit Subtotal		**0**	**0**	**0**	**0**	**386**	**0**	**334**	**24.131**	**1.526**	**113.637**	**0**	**4.713**	**315,732**

Table 5b - SUMMARY OF MANAGED PRODUCTIVE FOREST BY FOREST UNIT (FMP-9) - Iroquois Falls Forest SOUTH

		Past Plans						Current Plan						
		1991-1996			1996-2001			2000-2005						
		Protection Forest	Production Forest		Protection Forest	Production Forest		Protection Forest		Production Forest				
Forest Unit	Age Class		Unavailable	Available		Unavailable	Available			Unavailable		Stage of Manage	Available	
		(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(m^3)	(ha)	(m^3)		(ha)	(m^3)
All Fus	b&s	0	0	21,626	0	0	737	0	0	528	0	0	12,616	0
	1-10	0	0	0	0	0	19,145	0	0	0	0	0	18,649	0
	11-20	0	0	10,304	0	0	12,576	6	0	274	344	0	13,460	31,935
	21-30	0	0	0	0	0	12,770	0	0	90	810	0	1,916	28,616
	31-40	0	0	7,352	0	0	4,170	52	1,232	372	19,379	0	10,365	538,186
	41-50	0	0	0	0	0	3,101	15	675	519	26,072	0	1,056	44,624
	51-60	0	0	22,623	0	0	6,627	561	36,431	1,005	87,539	0	3,419	190,706
	61-70	0	0	0	0	0	13,672	432	30,918	2,265	238,218	0	10,125	771,655
	71-80	0	0	42,028	0	0	21,919	382	23,885	2,572	249,345	0	22,127	2,178,374
	81-90	0	0	0	0	0	12,108	464	32,197	1,945	197,067	0	17,219	1,606,997
	91-100	0	0	5,926	0	0	2,712	243	13,783	1,347	138,446	0	5,454	449,652
	101-110	0	0	0	0	0	1,342	118	7,931	383	31,326	0	1,926	137,624
	111-120	0	0	3,121	0	0	1,474	100	5,810	487	38,845	0	916	63,922
	121-130	0	0	9	0	0	993	99	5,184	903	53,708	0	1,428	92,148
	131-140	0	0	1,520	0	0	902	91	4,144	415	20,684	0	707	41,335
	141-150	0	0	0	0	0	89	0	0	148	7,516	0	531	23,362
	151-160	0	0	0	0	0	18	0	0	34	1,462	0	95	4,155
	161-170	0	0	0	0	0	0	0	0	0	0	0	27	1,044
	171-180	0	0	0	0	0	0	0	0	0	0	0	0	0
	181-190	0	0	0	0	0	0	0	0	0	0	0	0	0
	191-200	0	0	0	0	0	0	0	0	0	0	0	0	0
All Fus Total		**2,300**	**0**	**114,509**	**2,261**	**0**	**114,355**	**2,563**	**162,190**	**13,287**	**1,110,761**	**0**	**122,036**	**6,204,335**
Total Productive Forest				**116,809**			**116,616**						**137,886**	

Sources: 1991-96 available based on Table 4.9. while remaining areas based on Table 4.8.2
1996-01 available based on Table 4.13.1 and Table 4.8.2
2000-2005 based on FMP-9

Table 6a - SUMMARY REPORT OF RENEWAL, TENDING AND PROTECTION OPERATIONS - Iroquois Falls NORTH

Annualized (average annual)

	Annual Areas of All Forest Units (ha.)					
	Past Plan Term				Current Plan Term	
	1990-1995		1995-2000		2000-2005* (4 years actual)	
	Planned	Actual	Planned	Actual	Planned	Actual
Renewal	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)
Regeneration						
Uneven-Aged Management						
Selection Cut - Harvest	0	0	0	0	0	0
Total Uneven-Aged Management	0	0	0	0	0	0
Even-Aged Management						
Natural Regeneration						
Clearcut	2919	1839	1603	2124		
Clearcut(CLAAG)			2218	722	3770	2261
Clearcut(HARP)		522	811	1184	1260	675
Strip Cut						
Seed Tree Cut	0	0	0	0	0	0
Uniform Shelterwood Seed Cut	0	0	0	0	0	0
Subtotal Natural	2919	2361	4631	4030	5030	2936
Artificial Regeneration						
Planting	3550	2977	2000	1723	2469	2117
Seeding direct	710	507	500	103		
with site preparation			0	64	182	134
Scarification			0	0	0	0
Subtotal Artificial	4260	3485	2500	1890	2651	2250
Total Even-Aged Management	7179	5845	7131	5920	7681	5186
Total Regeneration	7179	5845	7131	5920	7681	5186
Site Preparation						
Mechanical	2350	2187	1200	663	1140	653
Chemical		141	150	0		
Prescribed Burn						63
Total Site Preparation	2350	2328	1350	663	1140	715
Tending						
Cleaning						
manual	0	12	0	0	0	0
chemical - ground						
- aerial	6000	3359	3000	3234	3051	3525
mechanical						
prescribed burn (slash piles)						
Spacing, pre-commercial thinning, improvement cutting						
even-aged						
uneven-aged						
Cultivation (drainage)						
Total Tending	6000	3371	3000	3234	3051	3525
Protection (Insect Pest Control)						
accelerated harvest		0		0		0
salvage		0		0		0
manual protection		0		0		0
ground insecticide		0		0		0
aerial insecticide		0		0		0
Total Protection		0		0		0

Sources: Planned and Actual Renewal and Maintenance Areas from Final RPFO Table 4.4 or RPFO-7, current planned from FMP 25.

*2000-2005 based on four years of actual from AR-6.

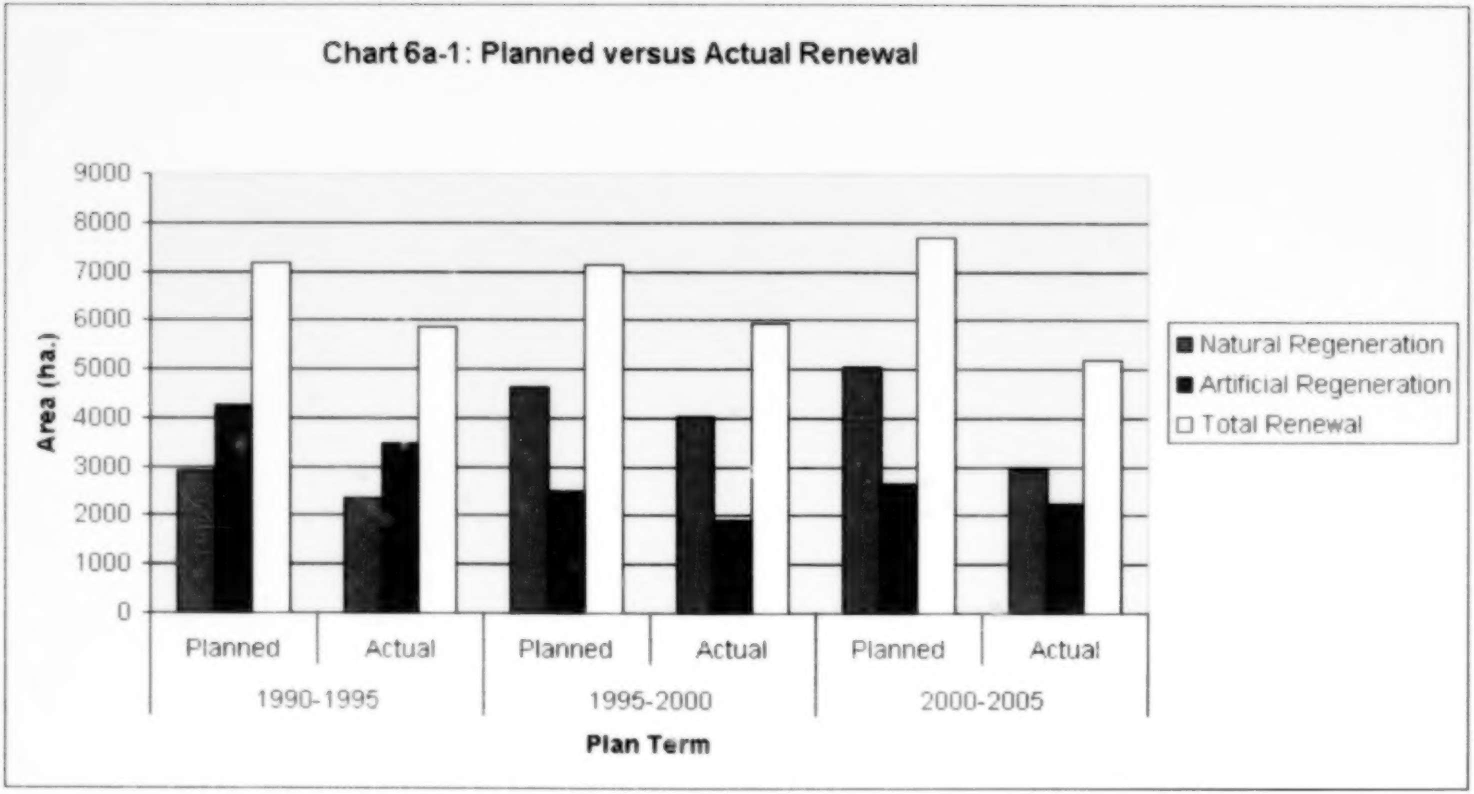


Chart 6a-1: Planned versus Actual Renewal

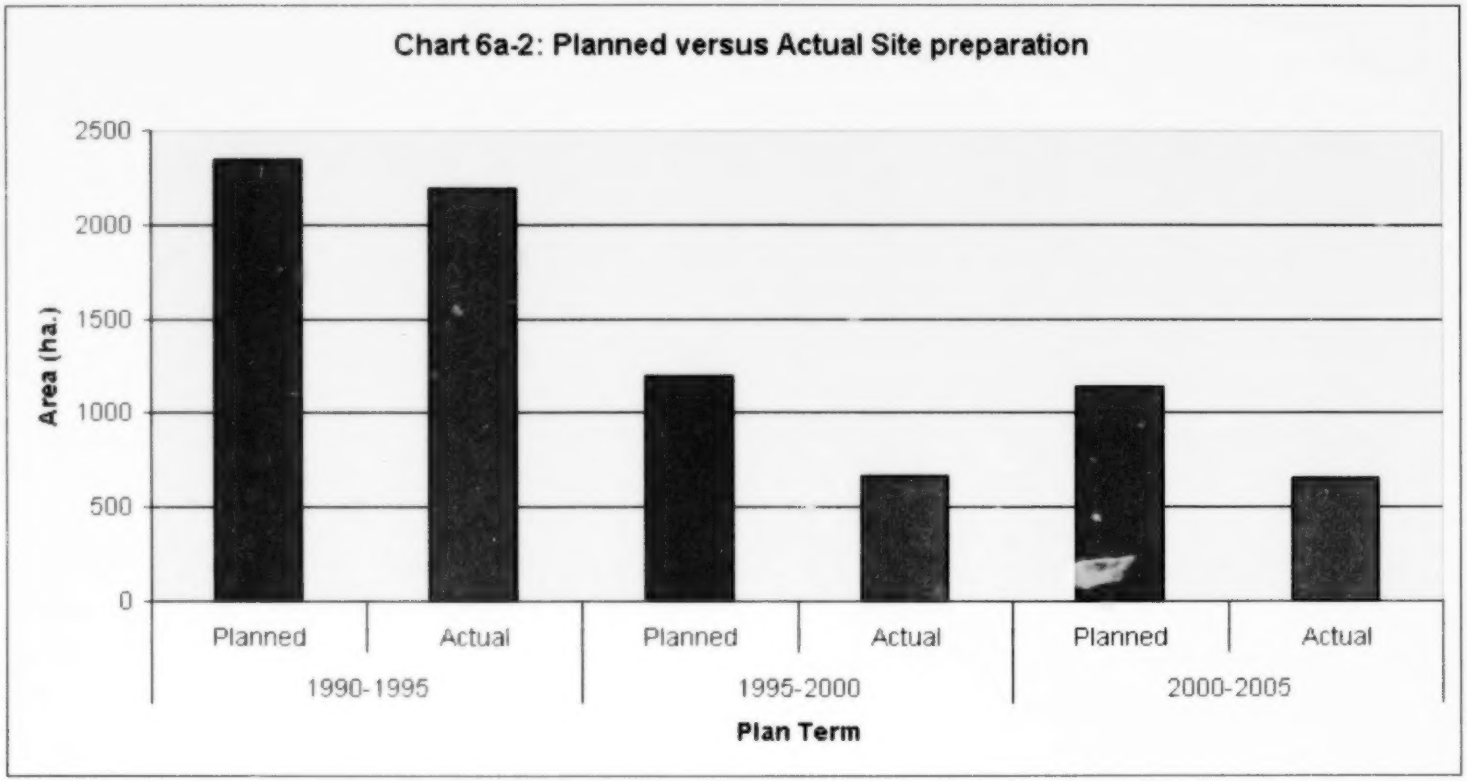


Chart 6a-2: Planned versus Actual Site preparation

Chart 6a-3: Planned versus Actaul Tending

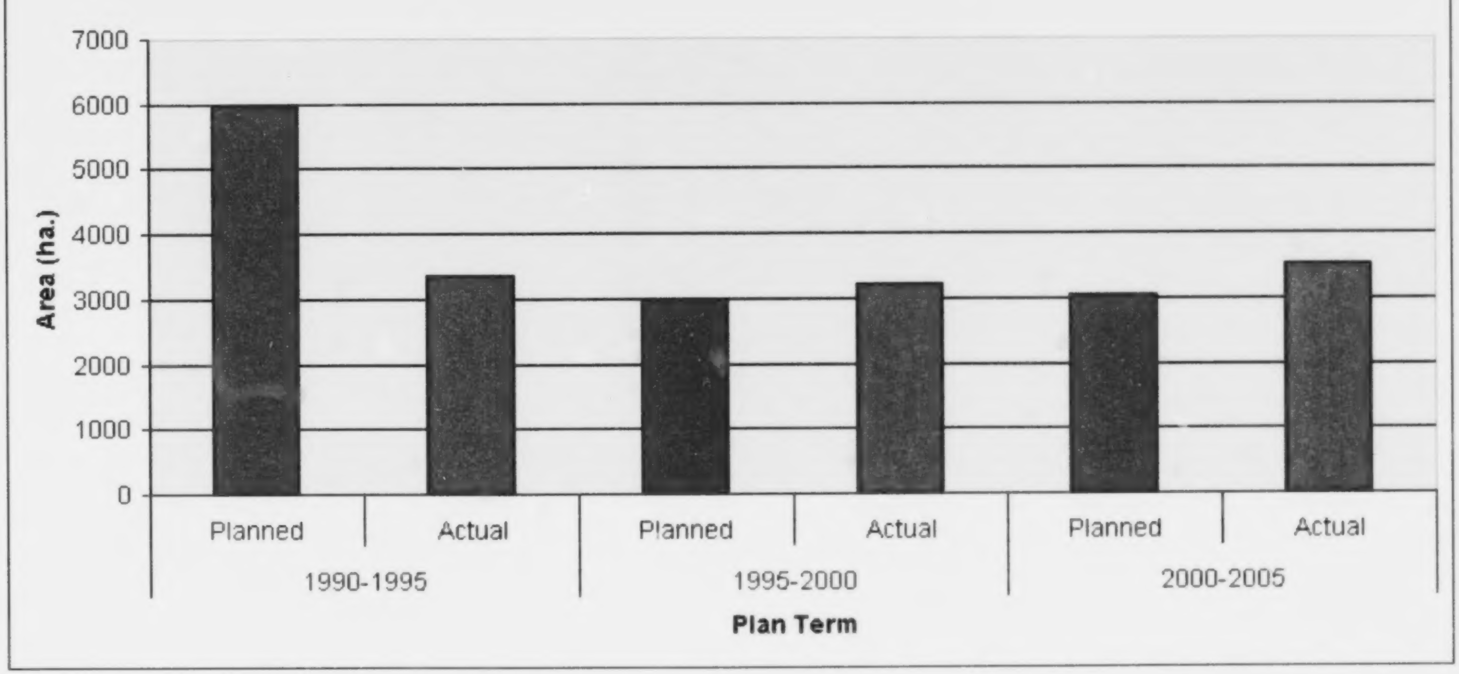


Table 6b - SUMMARY REPORT OF RENEWAL, TENDING AND PROTECTION OPERATIONS - Iroquois Falls SOUTH

Annualized (average annual)

	Annual Areas of All Forest Units (ha.)					
	Past Plan Term				Current Plan Term	
	1991-1996		1996-2000 (4 years)		2000-2005* (4 years actual)	
	Planned	Actual	Planned	Actual	Planned	Actual
Renewal	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)	(ave.ann.)
Regeneration						
Uneven-Aged Management						
Selection Cut - Harvest	0	0	0	0	0	0
Total Uneven-Aged Management	0	0	0	0	0	0
Even-Aged Management						
Natural Regeneration						
Clearcut	629	1168	869	448		
Clearcut(CLAAG)					915	845
Clearcut(HARP)					70	18
Strip Cut						
Seed Tree Cut	120	36	60	0	0	0
Uniform Shelterwood Seed Cut	0	0	0	0	0	0
Subtotal Natural	749	1204	929	448	985	862
Artificial Regeneration						
Planting	1807	657	562	528	482	414
Seeding direct	40	23	32	0		
with site preparation		0			25	0
Scarification	0	0	0	0	0	0
Subtotal Artificial	1847	680	594	528	507	414
Total Even-Aged Management	2596	1885	1523	977	1492	1277
Total Regeneration	2596	1885	1523	977	1492	1277
Site Preparation						
Mechanical	1746	192	442	174	507	129
Chemical	301	82				58
Prescribed Burn	30		163			27
Total Site Preparation	2077	274	604	174	507	214
Tending						
Cleaning						
manual	0		0	0	0	0
chemical - ground						
- aerial	1754	408	414	963	674	287
mechanical						
prescribed burn (slash piles)						
Spacing, pre-commercial thinning, improvement cutting						
even-aged			100	33		
uneven-aged						
Cultivation (drainage)						
Total Tending	1754	408	514	996	674	287
Protection (Insect Pest Control)	[redacted]		[redacted]		[redacted]	
accelerated harvest	[redacted]	0	[redacted]	0	[redacted]	0
salvage	[redacted]	0	[redacted]	0	[redacted]	0
manual protection	[redacted]	0	[redacted]	0	[redacted]	0
ground insecticide	[redacted]	0	[redacted]	0	[redacted]	0
aerial insecticide	[redacted]	0	[redacted]	0	[redacted]	0
Total Protection	[redacted]	0	[redacted]	0	[redacted]	0

Sources: Planned and Actual Renewal and Maintenance Areas from Final RPFO Table 4.4 or RPFO-7, current planned from FMP-25.
***2000-2005 based on four years of actual from AR-6.**

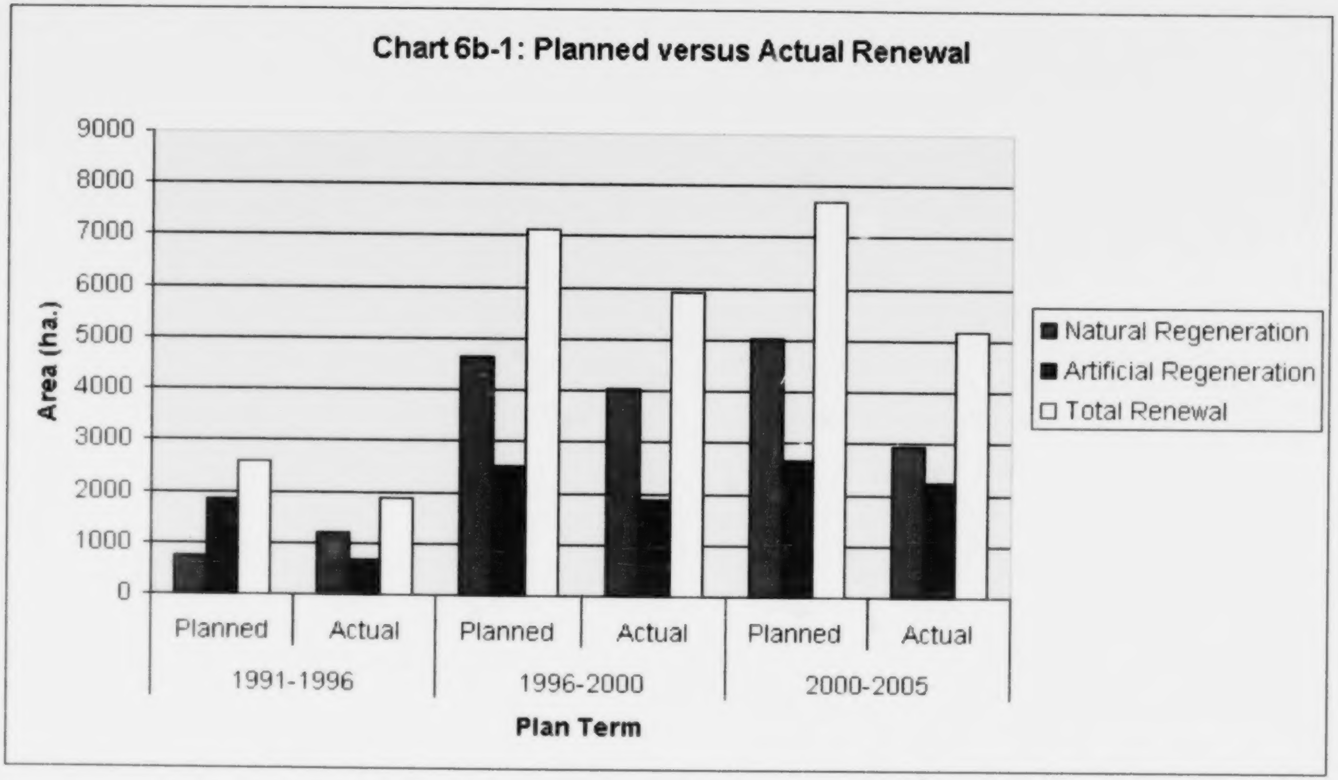


Chart 6b-1: Planned versus Actual Renewal

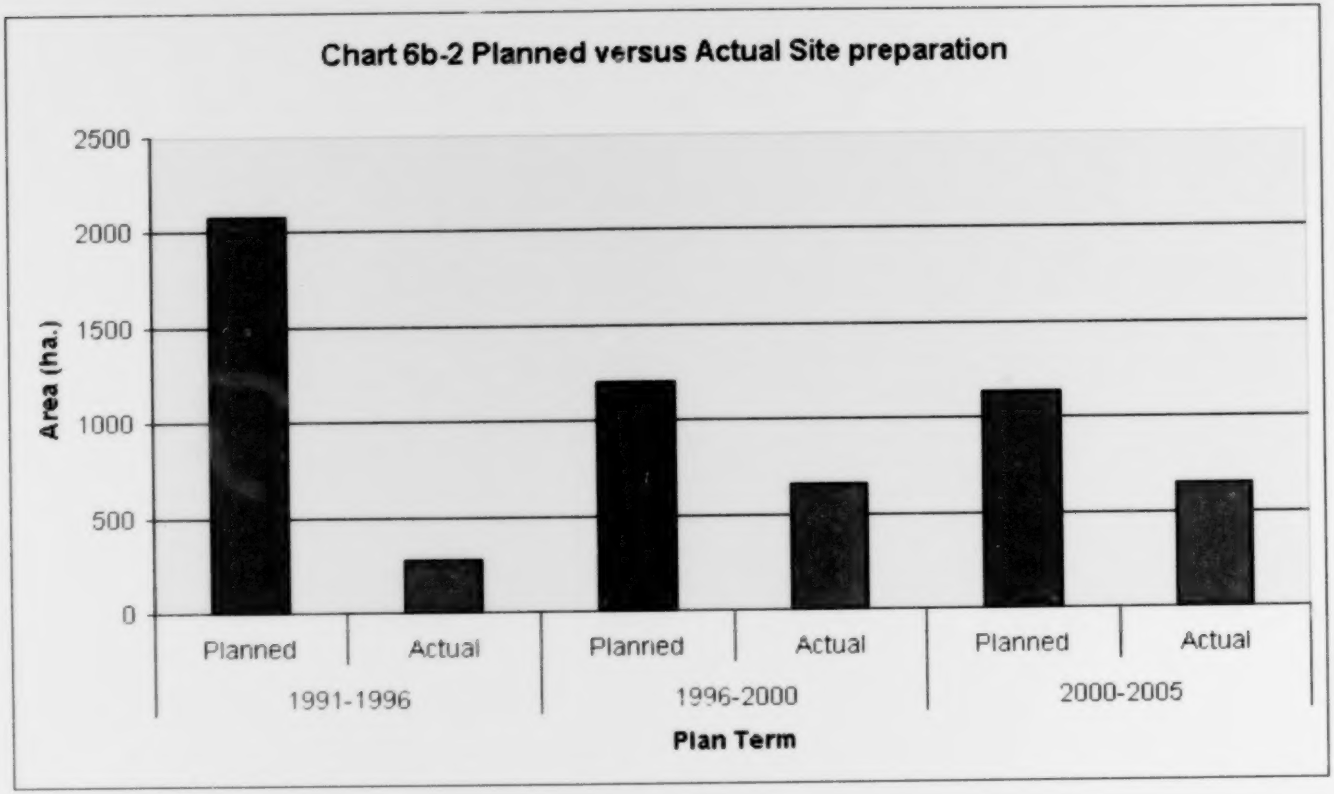


Chart 6b-2 Planned versus Actual Site preparation

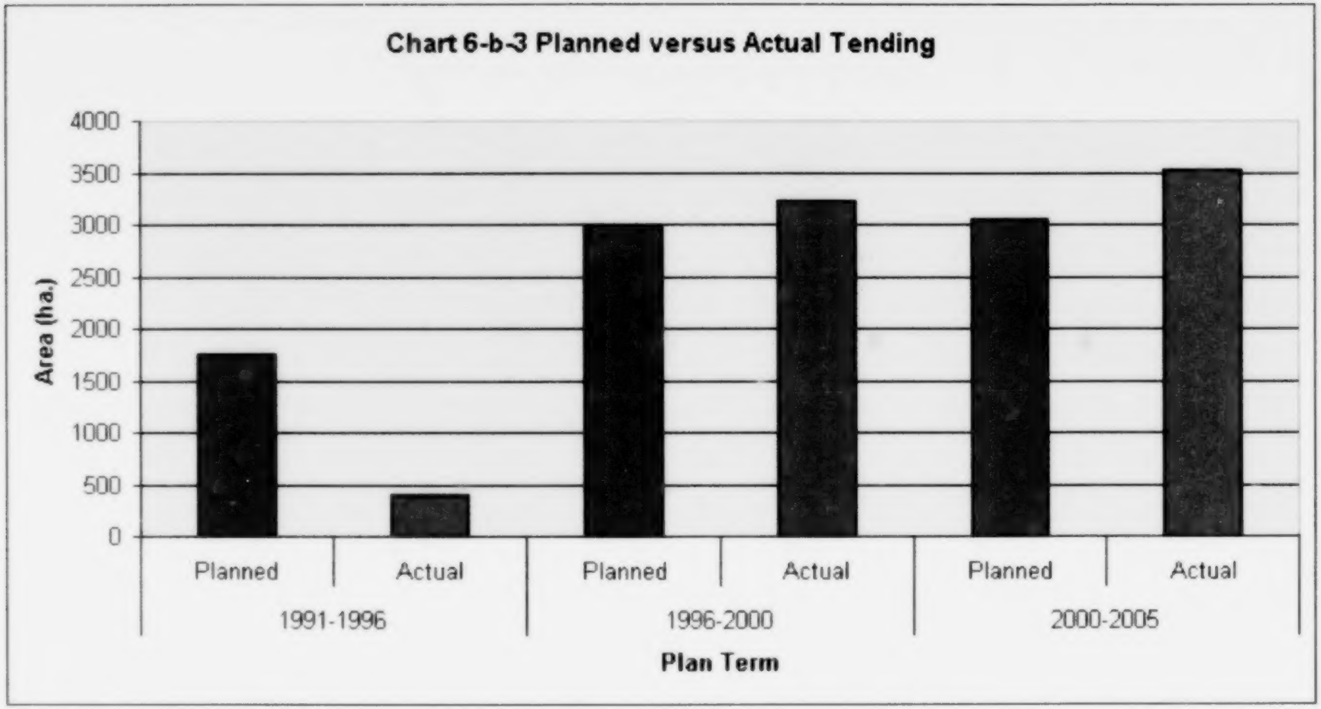
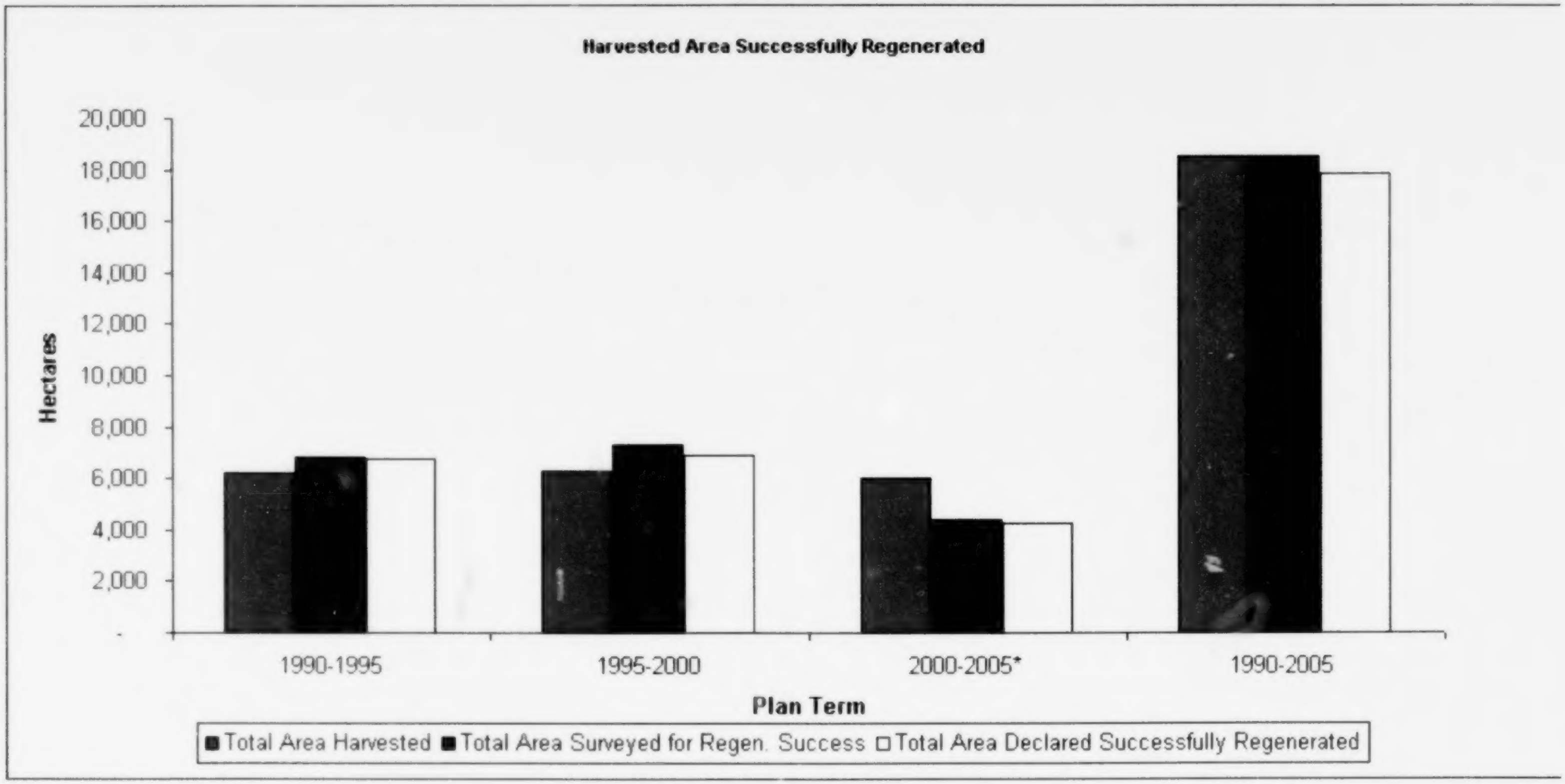


Chart 6-b-3 Planned versus Actual Tending
Area (ha.)
4000
3500
3000
2500
2000
1500
1000
500
0
Planned
Actual
Planned
Actual
Planned
Actual
1991-1996
1996-2000
2000-2005
Plan Term

Table 7a - Annual Area Reported as Successfully Regenerated Summary of All Forest Units - Iroquois Falls Forest NORTH

	AREA IN HECTARES - Annualized (All Forest Units Combined)	AREA IN HECTARES - Annualized (All Forest Units Combined)	AREA IN HECTARES - Annualized (All Forest Units Combined)	TOTAL AREA IN HECTARES - Annualized (All Three Terms)
	Even-aged	Even-aged	Even-aged	Even-aged
	1990-1995	1995-2000	2000-2005*	1990-2005
Total Area Harvested	6,215	6,305	5,988	**18,508**
Total Area Surveyed for Regen. Success	6,824	7,280	4,420	**18,524**
Total Unsurveyed Area	-	-	-	-
Total Area Declared Successfully Regenerated	6,728	6,878	4,251	**17,856**
Total Area Surveyed not Successfully Regenerated				-
NSR	96	403	170	-
B&S	-	-	-	-
Not Available for Regen (eg. Roads & landings)	-	-	-	-
Other	-	-	-	-
Percent of Area Surveyed Declared Successfully Regenerated	98.6%	94.5%	96.2%	**96.4%**

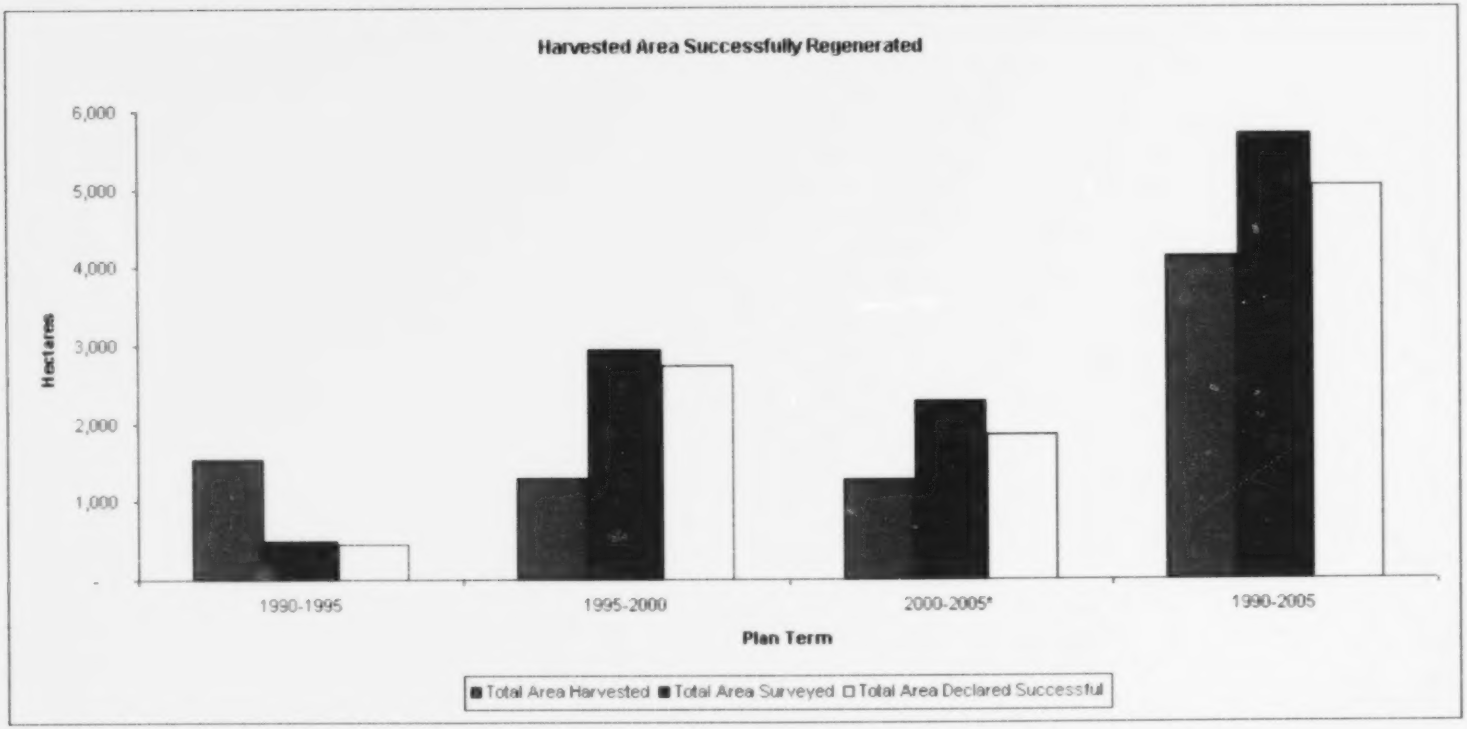


Sources:

1990-95 based on 1990-95 final Table 4.7
1995-2000 based on 1995-00 RPFO-8
* 2000-2005 based on AR-7 (average of four years)

Table 7b - Annual Area Reported as Successfully Regenerated Summary of All Forest Units - Iroquois Falls Forest SOUTH

	AREA IN HECTARES - Annualized (All Forest Units Combined)	*AREA IN HECTARES - Annualized (All Forest Units Combined)*	*AREA IN HECTARES - Annualized (All Forest Units Combined)*	*TOTAL AREA IN HECTARES - Annualized (Total of Three Terms)*
	Even-aged	Even-aged	Even-aged	Even-aged
	1991-1996	1996-2000*	2000-2005**	1990-2005
Total Area Harvested	1,545	1,304	1,280	**4,129**
Total Area Surveyed for Regen. Success	487	2,937	2,275	**5,699**
Total Unsurveyed Area	-	-	-	-
Total Area Declared Successfully Regenerated	446	2,729	1,853	**5,028**
Total Area Surveyed not Successfully Regenerated				-
NSR	41	208	422	-
B&S	-	-	-	-
Not Available for Regen. (eg. Roads & landings)	-	-	-	-
Other	-	-	-	-
Percent of Area Surveyed Declared Successfully Regenerated	91.6%	92.9%	81.5%	**88.2%**



Sources:

1991-96 based on 1991-96 final Table 4.7
*1996-2000 based on 1996-00 RPFO-8 (four years)
** 2000-2005 based on AR-7 (average of four years)

APPENDIX B

ROLES, RESPONSIBILITIES, AND QUALIFICATIONS OF THE AUDIT TEAM

Name	Role	Responsibilities	Credentials
Mr. Bruce Byford Arbex Forest Resource Consultants Ltd.	Lead Auditor Forest Management & Silviculture Auditor	• Audit Management & coordination • Liaison with OMNR & Auditee • Review documentation related to forest management planning and review and inspect silviculture practices • Determination of the sustainability component.	B.Sc.F. R.P.F. ISO 14001 Lead Auditor Training. FSC assessor training. 26 years of consulting experience in Ontario in forest management planning and resource inventory. Previous work experience on 5 IFA audits and FSC certification assessments.
Mr. Al Stewart Arbex Senior Associate	Wildlife/First Nations Auditor	• Review & inspect AOC documentation & practices • First Nations consultation • Determination of the sustainability component.	B.Sc. (Agr) ISO 14001 Lead Auditor Training. FSC assessor training. 37 years experience in natural resource management planning, field operations, policy development, auditing and working with First Nation communities. Previous work experience on 5 IFA audits,
Mr. David Watton Arbex Senior Associate	Forest Management Planning & Public Participation Auditor	• Review documentation and practices related to forest management planning & public participation • Determination of the sustainability component.	B.Sc., M.Sc. ISO 14001 Lead Auditor Training. 37 years experience in natural resource management planning, land use planning, field operations, and policy development. Previous work experience on 4 IFA audits.

Mr. Guy Winterton Arbex Senior Associate	Forest Compliance Auditor	• Review FMP and related documents to ensure compliance with FMPM and other regulations • Review field operations for compliance with regulations and guidelines and other documents.	B.Sc., M.Sc. ISO 14001 Lead Auditor Training. FSC assessor training. Previous work experience on 4 IFA audits. 37 years experience in all aspects of fisheries and wildlife planning, policy development, field operations and natural resource law enforcement.
Mr. Trevor Isherwood Trilac Forestry Services Arbex Associate	Sivicultural, Forest Management and Contractual Compliance Auditor	• Review and inspect silvicultural practices and related documentation • Review and inspect documents related to contractual compliance and socio-economics • Determination of the sustainability component.	B.Sc.F. R.P.F. Former General Manager of SFL 37 years experience in forest management and operations. Previous work on 1 IFA audit.
Mr. Nicholas Baggs N.G.B. Forest Management Consulting	Technical Advisor - SFMM	• Analysis of SFMM model outputs and decision criteria and the determination of the sustainability component.	B.Sc.F. R.P.F. Previous work experience on IFA audits and FSC certification assessments Experience as OMNR Planning Forester & Unit Forest

APPENDIX C

INDEPENDENT FOREST AUDIT GUIDING PRINCIPLES

Summary of the Eight Guiding Principles within the Audit Protocol

There are eight guiding principles contained in the 2005 Draft Independent Forest Audit Process and Protocol, which guide the audit.

Commitment

Commitment is reflected in vision, mission, and policy statements of the Company. Vision and mission statements are intended to provide long-term guidance for the organization. Policy statements reflect how the organization's vision and mission will be achieved. These statements must be reflected in the day-to-day operations of the organization.

Public Participation

The process of sustainable forest planning, implementation, and monitoring is conducted in an open consultative fashion, with input from all members of the planning team, Local Citizen's Committee, native groups and other parties with an interest in the operations of the forest unit.

Forest Management Planning

The forest management planning process involves the input of a number of individuals and groups to describe the current condition of the forest, the values and benefits to be obtained from the forest, the desired condition of the forest in the future, and the best methods to achieve the goal. Certain minimum standards and procedures have been established upon which all management units are evaluated.

Plan Implementation

Verification of the actual results of operations in the field compared to the planned operations is required to be able to assess achievements of the plan objectives and compliance with laws and regulations. In conjunction with the review of operations, the reporting tables are tested to ensure accurate results are reported.

Support System

System support concerns resources and activities needed to support plan implementation so as to achieve the desired objectives. Appropriate control, documentation and reporting procedures must be in place and operational. Planned action should occur at planned times, in planned places and to the planned degree.

Monitoring

The activities and the effects of these activities in achieving management objectives must be regularly measured and assessed. In particular, the indicators of achievement must be assessed and their effectiveness reviewed.

Achievement of Management – Objectives & Forest Sustainability

Periodic assessments of the management of the forest unit operations and the forest unit must be made in order to determine whether forest sustainability and other management objectives are being achieved. This includes comparing the actual values of the predetermined indicators against the planned values and assessing the reasons for any significant deviations.

Contractual Compliance

The licencee must comply with the specific licence requirements.

APPENDIX D

GLOSSARY OF ACRONYMS USED

LIST OF ACRONYMS

AHA	Available Harvest Area
AOC	Area of Concern
AR	Annual Report
AWS	Annual Work Schedule
B&S	Barren and Scattered
Bf	Balsam Fir
B.Sc.F.	Bachelor of Science in Forestry
Bw	White Birch
CFSA	Crown Forest Sustainability Act
CLAAG	Careful logging around advanced growth
DM	District Manager
EA	Environmental Assessment
EMS	Environmental Management System
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FOCIS	Forest Operations Compliance Information System
FOIP	Forest Operations Information Program
FRI	Forest Resource Inventory
FOP	Forest Operations Prescription
FTG	Free-to-Grow
FU	Forest Unit
GIS	Geographic Information System
HA	Hectares
HARP	Harvesting with Regeneration Protection
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
IFF	Iroquois Falls Forest
IFN	Iroquois Falls North
IFS	Iroquois Falls South
ISO	International Standards Organization
LAMF	Lake Abitibi Model Forest
LCC	Local Citizens Committee
m^3	Cubic Metres
MAD	Maximum Allowable Depletion
NIC	Not in Compliance
NRVIS	Natural Resource Values Information System
NSR	Not Satisfactorily Regenerated
OMNR	Ontario Ministry of Natural Resources
Pj	Jack Pine
Po	Poplar
PPMA	Preliminary Preferred Management Alternative
R.P.F.	Registered Professional Forester

RPFO	Report of Past Forest Operations
RSA	Resource Stewardship Agreement
Sb	Black spruce
SEIM	Socio-Economic Impact Modeling
SEV	Statement of Environmental Value
SFL	Sustainable Forest Licence
SFMM	Sustainable Forest Management Model
SGR's	Silvicultural Ground Rules
SMA	Selected Management Alternative
SPF	Spruce Pine Fir
Sw	White Spruce
TOR	Terms of Reference

APPENDIX E

SUMMARY OF INPUT TO THE AUDIT PROCESS

APPENDIX E - SUMMARY OF INPUT TO THE AUDIT PROCESS

A major focus of the audit was to gain an understanding of how forest management activities on the Iroquois Falls Forest affected users of the forest.

The following briefly summarizes the contacts and the issues raised. All these contacts and issues are fully discussed throughout the body of the report.

General Public /Other Stakeholders

Notices describing the audit process, and soliciting input, and providing audit dates and contact coordinates of the Auditor were disturbed by the following means:

- local newspapers,
- individual letters sent to First Nation Chiefs and LCC members,
- letters sent to a randomly selected 35 percent of the individuals on the OMNR Iroquois Falls Forest mailing list,

Telephone contacts were made with representative stakeholders and interviews were conducted as necessary or on request.

The principal issues raised with the auditor included;

- concerns about the appropriateness of the marten and NDPEG guidelines on the IFN landscape and economic implications of implementing those guidelines,
- the feasibility and economic implications of the Cultural Heritage Guidelines,
- increasing frequency of new government forest management guidelines and continual modification of existing guidelines.
- Slash management

Local Citizen's Committee

All Cochrane LCC members received individual letters inviting participation and the opportunity for a personal interview. Members of the Kirkland LCC who participated on the Cochrane LCC for planning purposes received individual letters inviting participation and the opportunity for a personal interview. Five members of the LCC and were interviewed. One LCC member attended the three days of the field audit including the Opening and Closing Meetings.

Principal issues that were identified included:

- unrealistic and largely unobtainable responsibilities for the LCC,
- the complex Planning process,
- the onerous workload responsibility for the LCC (for four Forest Management Units),
- recruitment and retention of members.

Native Communities

Invitations to participate in the audit process were sent to the Taykwa Tagamou, Wahgoshig, Moose Cree First Nations, and the Beaverhouse Aboriginal Community. The auditors interviewed eight representatives from the above communities.

Principal issues that were identified included:

- past poor relations with the Company and OMNR which have significantly improved.
- enhanced economic opportunities for First Nations in forestry.
- jurisdiction issues.
- financial and technical capacity to participate effectively in forest management planning.

Overlapping Licencees, Contractors and Commitment Holders

Interviews were conducted with Overlapping Licencees, Contractors and Commitment Holders on the Iroquois Falls Forest (e.g. Norbord, Grant Forest Products, Tembec Inc., First Nations).

Principal issues that were identified included:

- On-going issues related to poplar allocations amongst commitment holders.
- Wood utilization.
- Concerns about the appropriateness of the marten and NDPEG guidelines on the IFN landscape and economic implications of implementing those guidelines.
- The feasibility and economic implications of the Cultural Heritage Guidelines.
- Increasing frequency of new government forest management guidelines and continual modification of existing guidelines.
- Conversion of poplar sites to conifer.

SFL Holder

Including a preliminary 2 day visit to the Iroquois Falls office and the 5 days of the field audit, the auditor spent many hours with individual SFL staff representing all levels in the organization. The results of these numerous discussions are reflected throughout this audit report.

Ministry of Natural Resources

The auditor met with OMNR staff at the preliminary visit and the 5 days of the field audit. Contacts included all levels of the organization from field technicians to the District Managers for both the Cochrane and Kirkland Lake Districts. Regional and Forest Management Branch OMNR staff participated in the field audit. The results of these numerous discussions are reflected throughout this audit report.